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UINTATHERIUM

One of the first big mammals, rhinoceros-shaped *Uintatherium* had six bony knobs on its head.

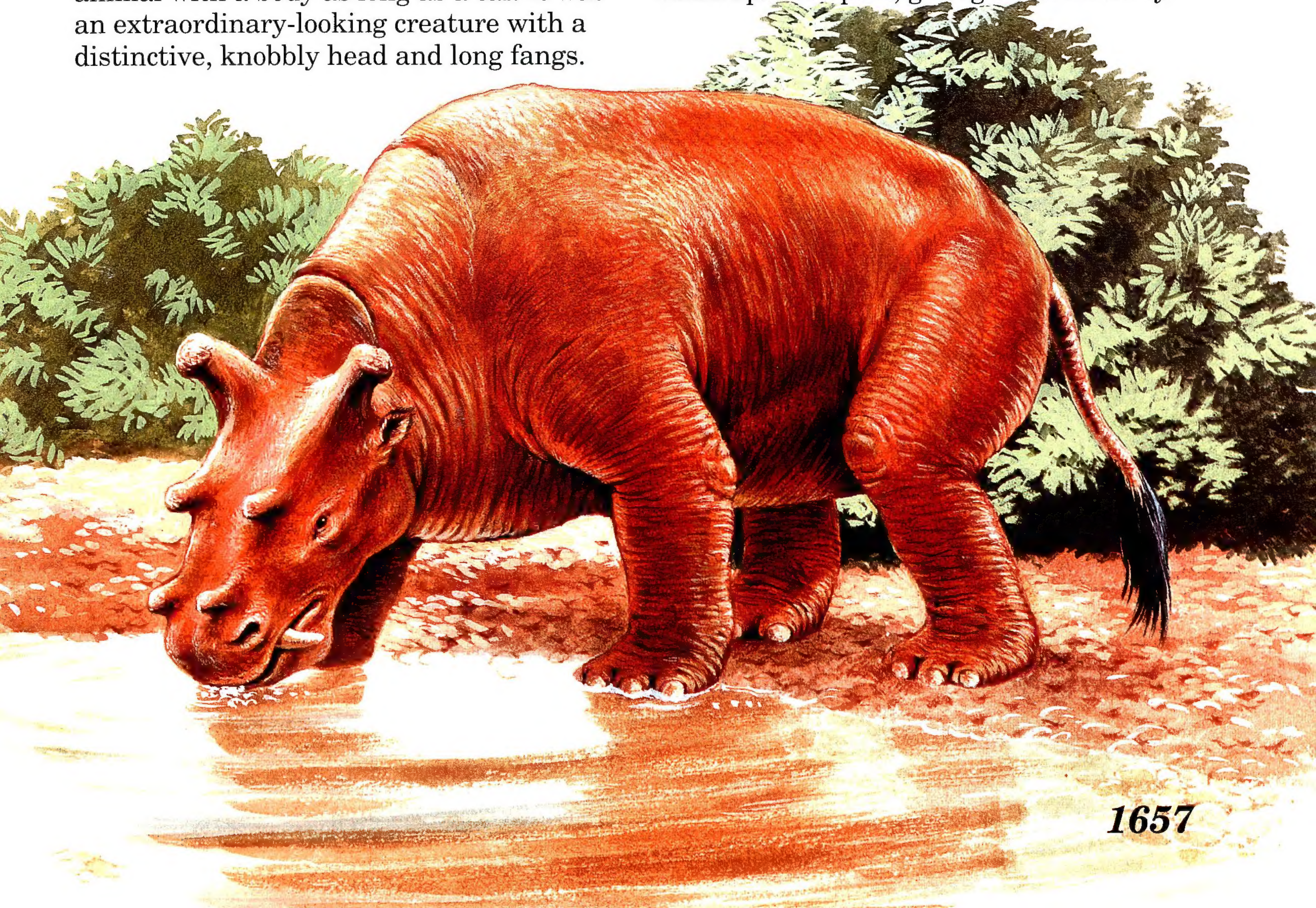
After the dinosaurs died out there was a huge increase in the numbers and types of mammal that roamed the world. These new animals were small. The biggest were only the size of a large dog today. But by Early Eocene times, the first heavyweight mammals had arrived. *Uintatherium* was a rhinoceros-shaped animal with a body as long as a car. It was an extraordinary-looking creature with a distinctive, knobbly head and long fangs.

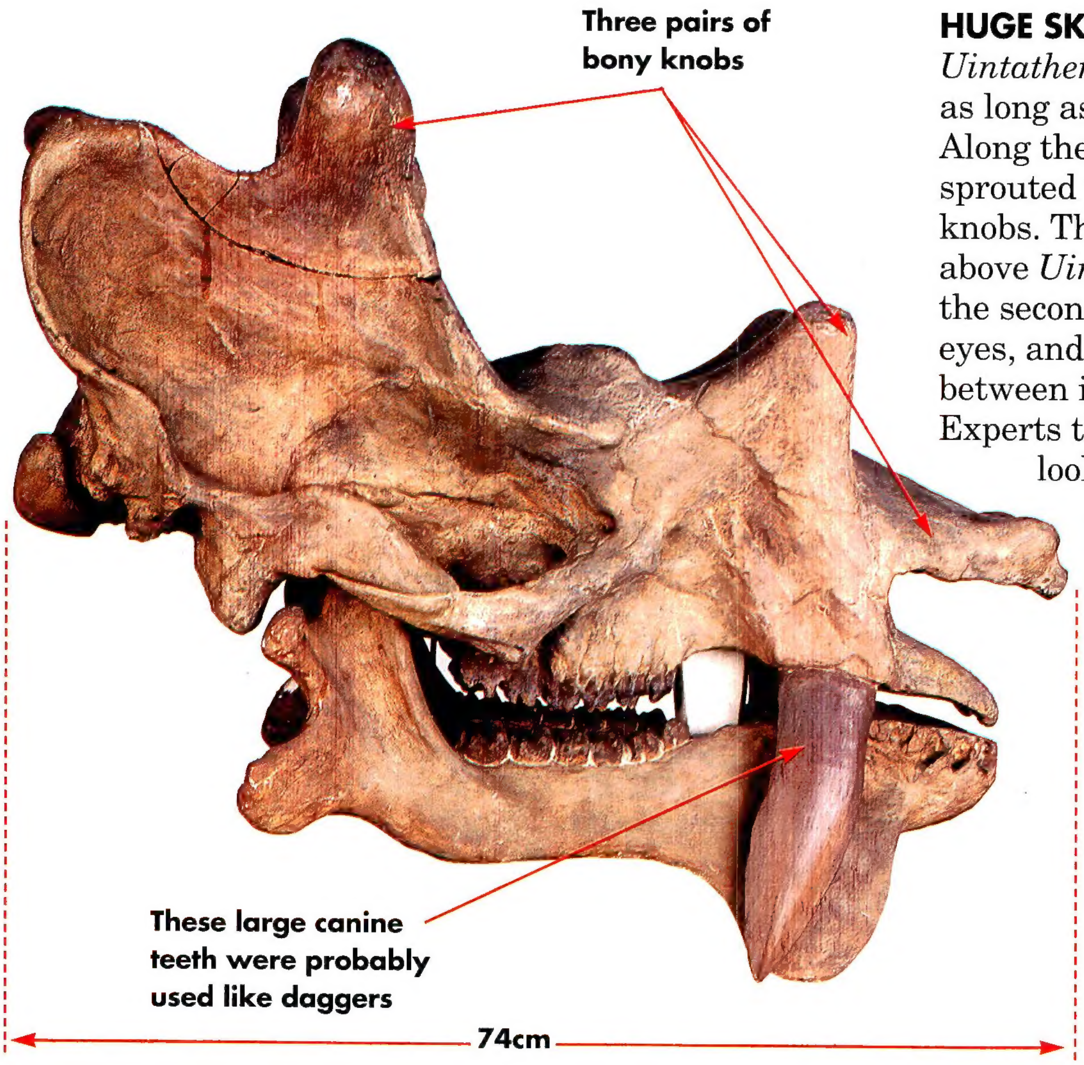
LEAFY LUNCH

As it lumbered across the plains of Utah and Colorado, USA, *Uintatherium* looked for the soft-leaved plants. Its massive body was supported by trunk-like legs as it stood munching a large, leafy lunch.

BETTER BALANCE

If you stand on tiptoe, it is difficult to keep your balance. When you stand with your feet flat, it is easier to balance because you have a broader base to support your weight. *Uintatherium*'s feet were very broad and tipped with five,stubby toes which spread apart, giving extra stability.




Three pairs of bony knobs
These large canine teeth were probably used like daggers
74cm

HUGE SKULL

Uintatherium's large skull was as long as that of a rhinoceros. Along the top of its head sprouted three pairs of bony knobs. The first pair grew just above *Uintatherium*'s nostrils, the second pair in front of its eyes, and the third pair between its eyes and its ears. Experts think that this bizarre-looking beast probably used these stubby horns in battles between rival males.

***Uintatherium*'s skull was about the same size as that of today's rhinoceros.**

IT'S A FACT

FEUDING FOSSIL HUNTERS

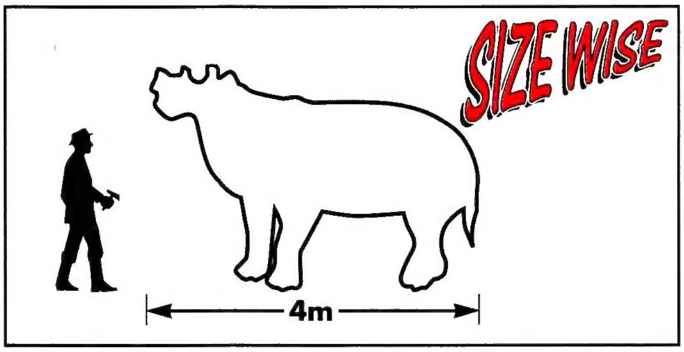
Two 19th-century fossil hunters, Edward Drinker Cope and Othniel Marsh, were great rivals. They both collected fossils of *Uintatherium* but had very different ideas about what the animal actually looked like. Cope thought it was an elephant-like creature with a trunk and long antlers. Marsh's ideas were much closer to how today's experts draw this early mammal.

DAGGERS DRAWN

A male *Uintatherium* had large canine teeth, about as long as your hand, which hung from the top of its mouth like fangs. Today, a male hippopotamus uses its tusks to wound opponents in fierce battles. *Uintatherium* males probably used their strong teeth like daggers to make deep gashes in a rival's thick skin.

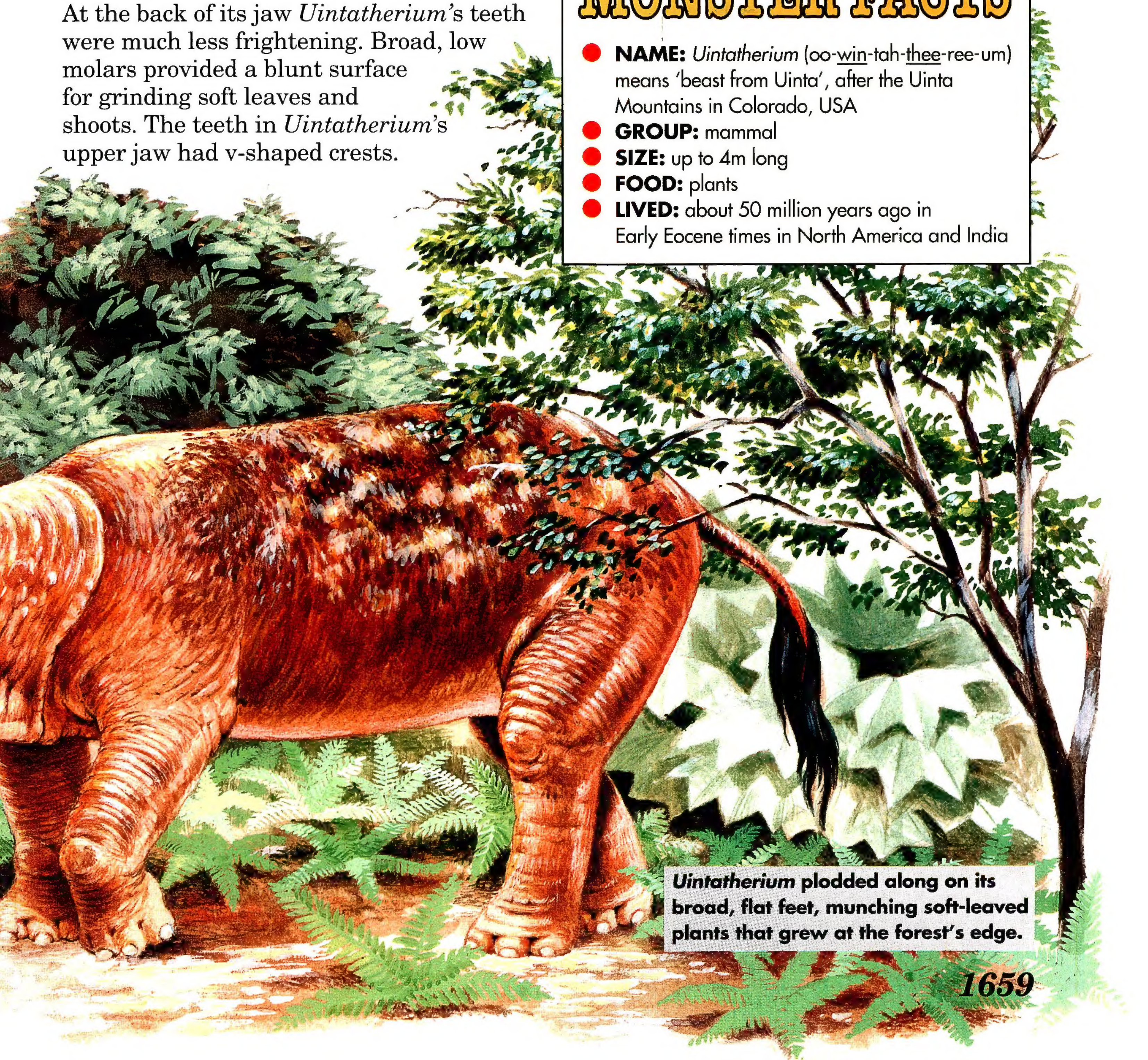
BROAD AND BLUNT

At the back of its jaw *Uintatherium*'s teeth were much less frightening. Broad, low molars provided a blunt surface for grinding soft leaves and shoots. The teeth in *Uintatherium*'s upper jaw had v-shaped crests.



MONSTER FACTS

- **NAME:** *Uintatherium* (oo-win-tah-thee-ree-um) means 'beast from Uinta', after the Uinta Mountains in Colorado, USA
- **GROUP:** mammal
- **SIZE:** up to 4m long
- **FOOD:** plants
- **LIVED:** about 50 million years ago in Early Eocene times in North America and India



***Uintatherium* plodded along on its broad, flat feet, munching soft-leaved plants that grew at the forest's edge.**

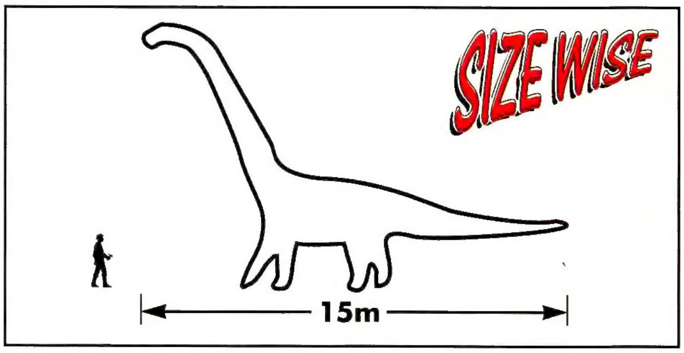
EUHELOPUS

As long as a lorry, *Euhelopus* was one of the first dinosaurs found in China.

A Swedish expedition discovered *Euhelopus* in the 1920s. It was a large sauropod, similar in shape to long-necked *Mamenchisaurus*. Chinese dinosaurs may have lived in harsher surroundings than those enjoyed by North American dinosaurs. Shallow, salty lakes and dry scrublands made life hard for plant-eaters in China. Long-necked *Euhelopus* may have fed on the tall conifers that grew on higher ground.

SLOPING BACK

Euhelopus walked on four pillar-like legs with its neck and tail balanced like a seesaw. Because its front legs were slightly longer than its hind limbs, *Euhelopus'* back sloped downwards. Its broad, flat feet worked like snow-shoes to stop this heavy dinosaur from sinking into soft ground.



MONSTER FACTS

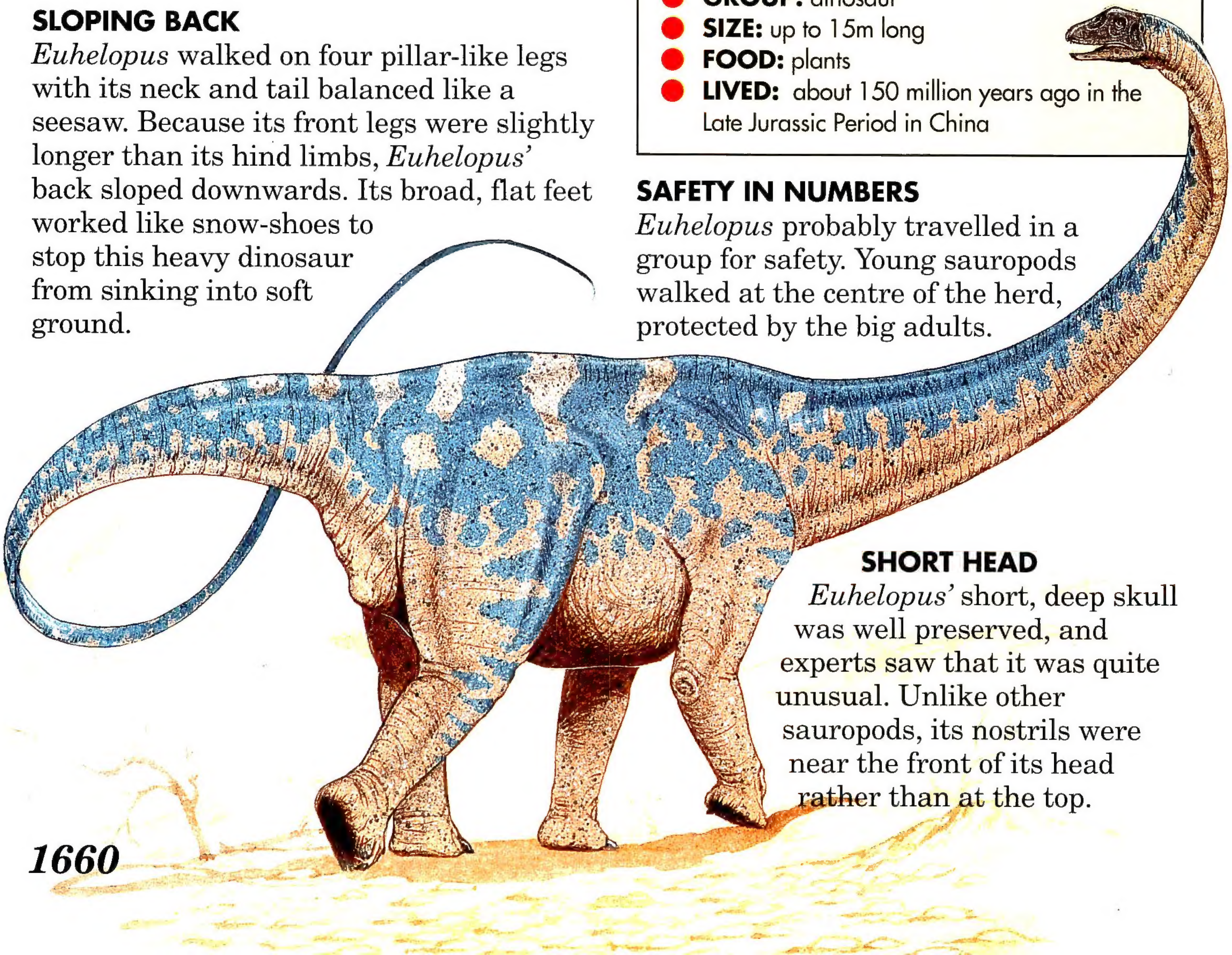
- **NAME:** *Euhelopus* (yoo-hel-oh-pus) means 'good marsh foot'
- **GROUP:** dinosaur
- **SIZE:** up to 15m long
- **FOOD:** plants
- **LIVED:** about 150 million years ago in the Late Jurassic Period in China

SAFETY IN NUMBERS

Euhelopus probably travelled in a group for safety. Young sauropods walked at the centre of the herd, protected by the big adults.

SHORT HEAD

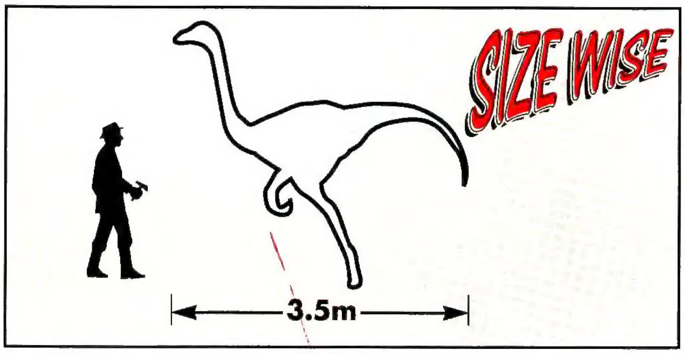
Euhelopus' short, deep skull was well preserved, and experts saw that it was quite unusual. Unlike other sauropods, its nostrils were near the front of its head rather than at the top.



GARUDIMIMUS

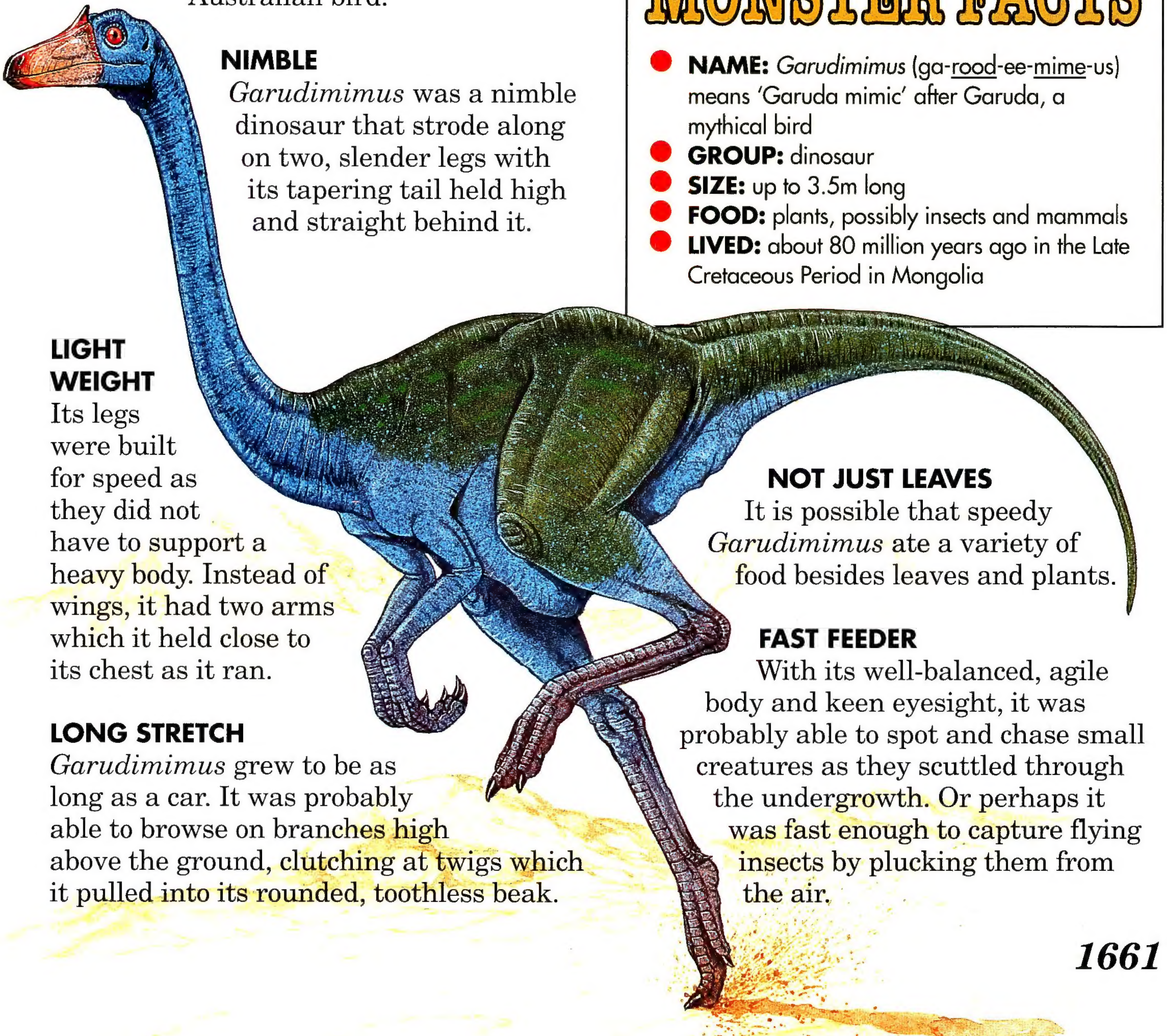
Ostrich-like *Garudimimus* had a strange ridge above its eyes.

Only remains of *Garudimimus*' skull have been found but these were so unusual that scientists placed *Garudimimus* in a group of its own – the garudimimids. With a bony hornlet above its eyes, it looks very like today's emu, which is a flightless Australian bird.



MONSTER FACTS

- **NAME:** *Garudimimus* (ga-rood-ee-mime-us) means 'Garuda mimic' after Garuda, a mythical bird
- **GROUP:** dinosaur
- **SIZE:** up to 3.5m long
- **FOOD:** plants, possibly insects and mammals
- **LIVED:** about 80 million years ago in the Late Cretaceous Period in Mongolia



NIMBLE

Garudimimus was a nimble dinosaur that strode along on two, slender legs with its tapering tail held high and straight behind it.

LIGHT WEIGHT

Its legs were built for speed as they did not have to support a heavy body. Instead of wings, it had two arms which it held close to its chest as it ran.

LONG STRETCH

Garudimimus grew to be as long as a car. It was probably able to browse on branches high above the ground, clutching at twigs which it pulled into its rounded, toothless beak.

NOT JUST LEAVES

It is possible that speedy *Garudimimus* ate a variety of food besides leaves and plants.

FAST FEEDER

With its well-balanced, agile body and keen eyesight, it was probably able to spot and chase small creatures as they scuttled through the undergrowth. Or perhaps it was fast enough to capture flying insects by plucking them from the air.

Tusks and trunks

There are only two kinds of elephants alive today but in prehistoric times there were many more.

Although today's elephants are the world's largest land animals, some prehistoric elephants were even bigger. But there were dozens of species, ranging from mini-elephants the size of small pigs, to mega-mammoths twice as big as today's elephants. They evolved many kinds of weird trunks and tusks.

FIRST OF THE DYNASTY

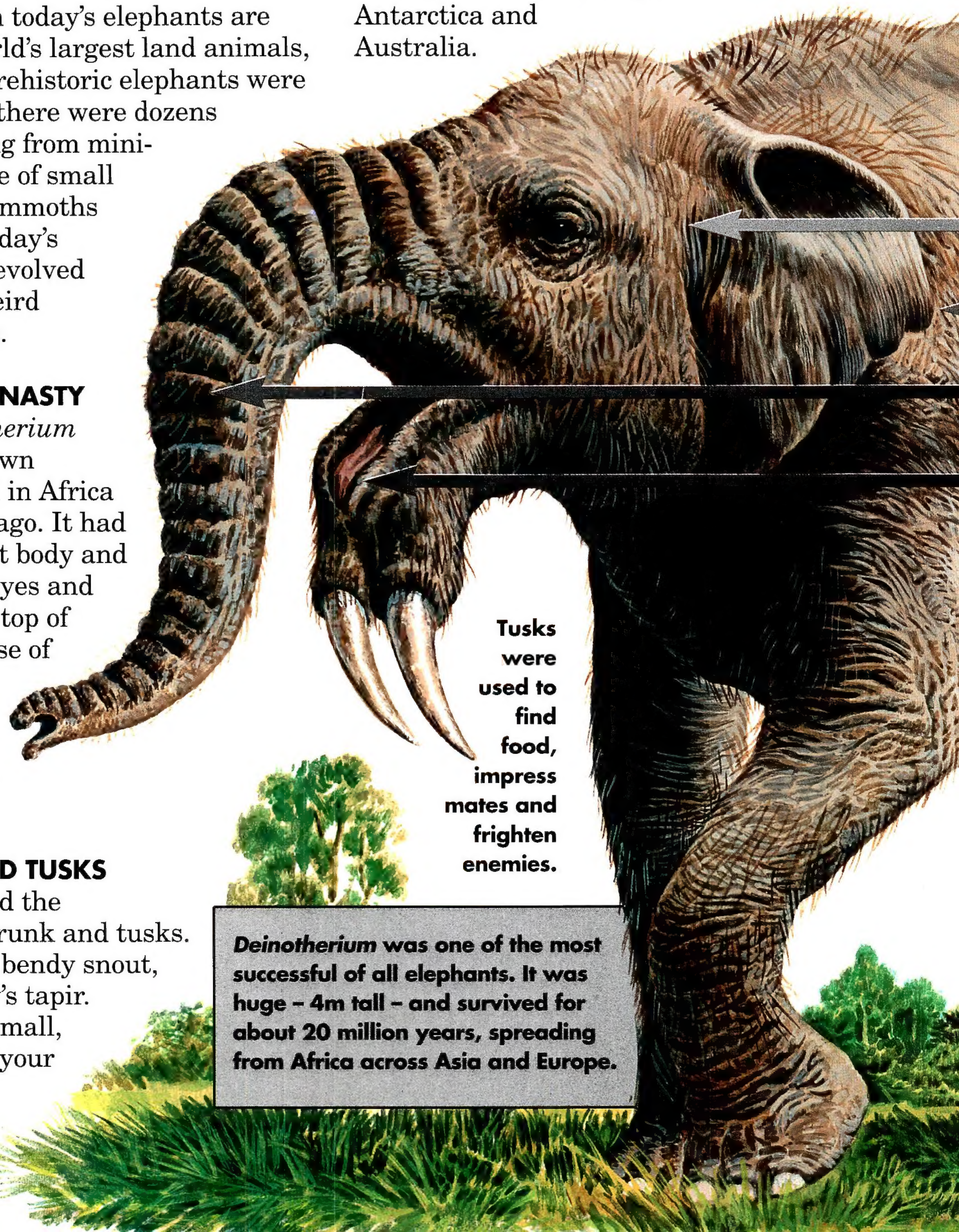
Pig-sized *Moeritherium* was the first-known elephant. It lived in Africa 40 million years ago. It had short legs, a stout body and a long head. Its eyes and ears were on the top of its head, like those of a hippo. It may have waded and wallowed in the water like a hippo too.

TINY TRUNK AND TUSKS

Moeritherium had the beginnings of a trunk and tusks. The trunk was a bendy snout, like that of today's tapir. The tusks were small, about the size of your little fingers.

ELEPHANTS EVERYWHERE

By the Miocene Epoch, 25 million years ago, elephants were becoming more numerous. They spread from Africa to every continent, except Antarctica and Australia.

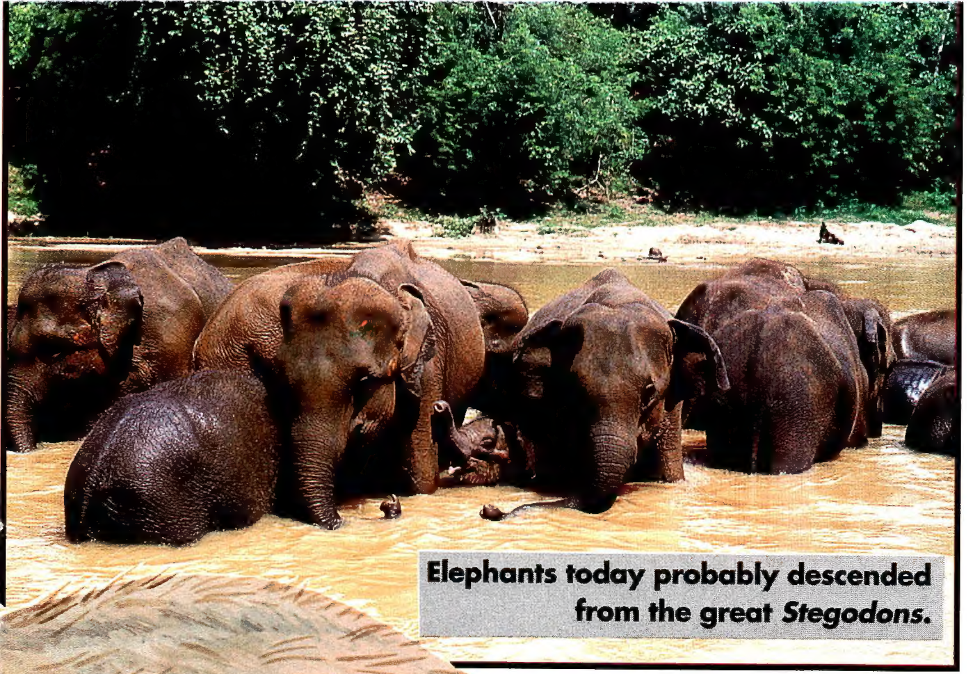


Tusks were used to find food, impress mates and frighten enemies.

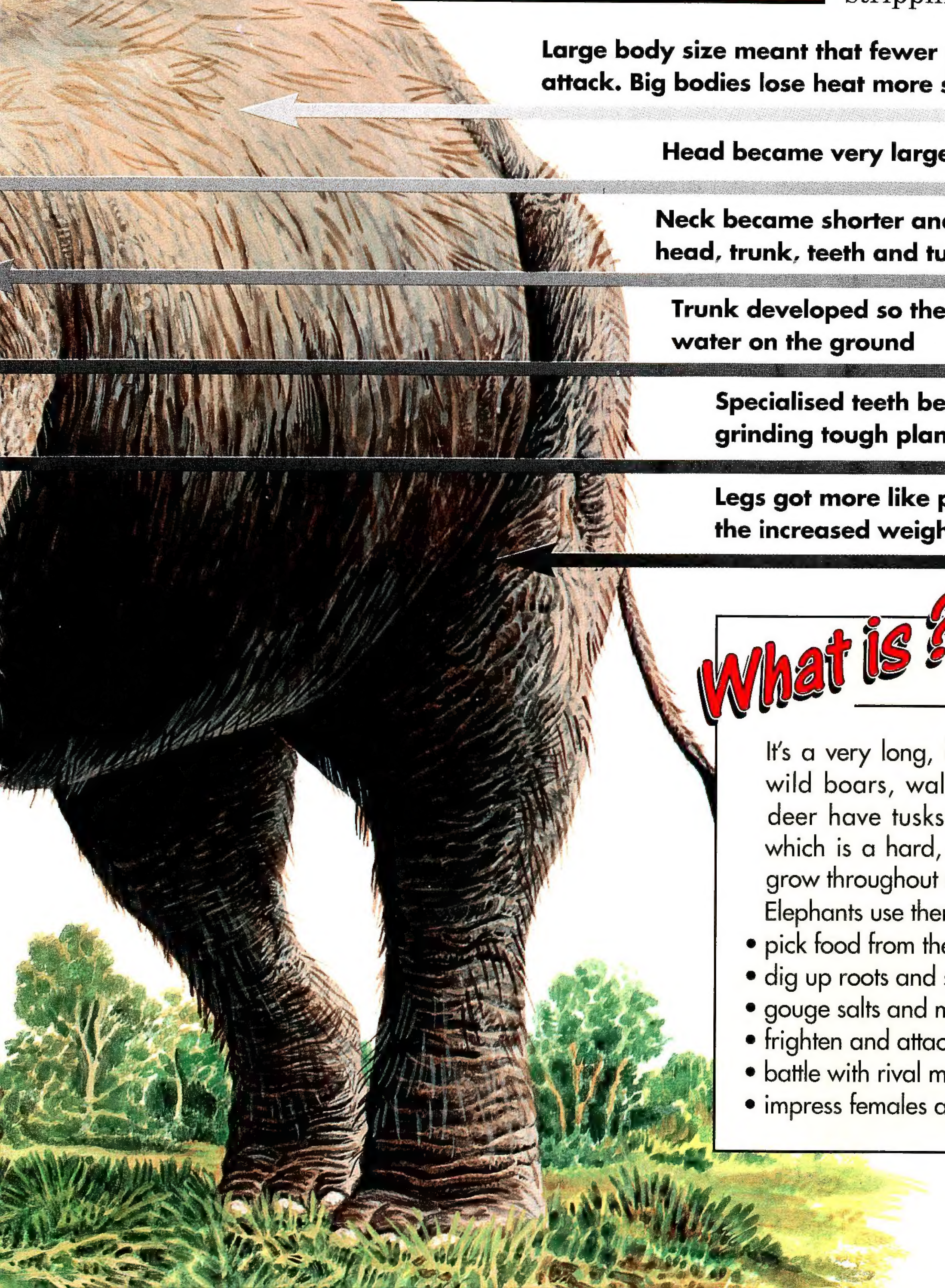
***Deinotherium* was one of the most successful of all elephants. It was huge – 4m tall – and survived for about 20 million years, spreading from Africa across Asia and Europe.**

UPSIDE-DOWN TUSKS

Elephants evolved bigger bodies and heads, longer trunks and tusks, and fewer teeth. *Deinotherium* had two large tusks that curved down from its lower jaw. This is the opposite of today's elephant, whose tusks curve up from its upper jaw. *Deinotherium* probably used its tusks for digging roots or stripping bark from trees.



Elephants today probably descended from the great *Stegodons*.



Large body size meant that fewer predators were likely to attack. Big bodies lose heat more slowly in cold conditions

Head became very large to hold the teeth and tusks

Neck became shorter and thicker to carry heavy head, trunk, teeth and tusks

Trunk developed so the animal could reach food and water on the ground

Specialised teeth became bigger and harder for grinding tough plant food

Legs got more like pillars or tree-trunks to carry the increased weight

What is? A TUSK

It's a very long, large incisor tooth. Elephants, wild boars, walruses, narwhals and some deer have tusks. They are made of ivory, which is a hard, white substance, and they grow throughout an elephant's life.

Elephants use them to:

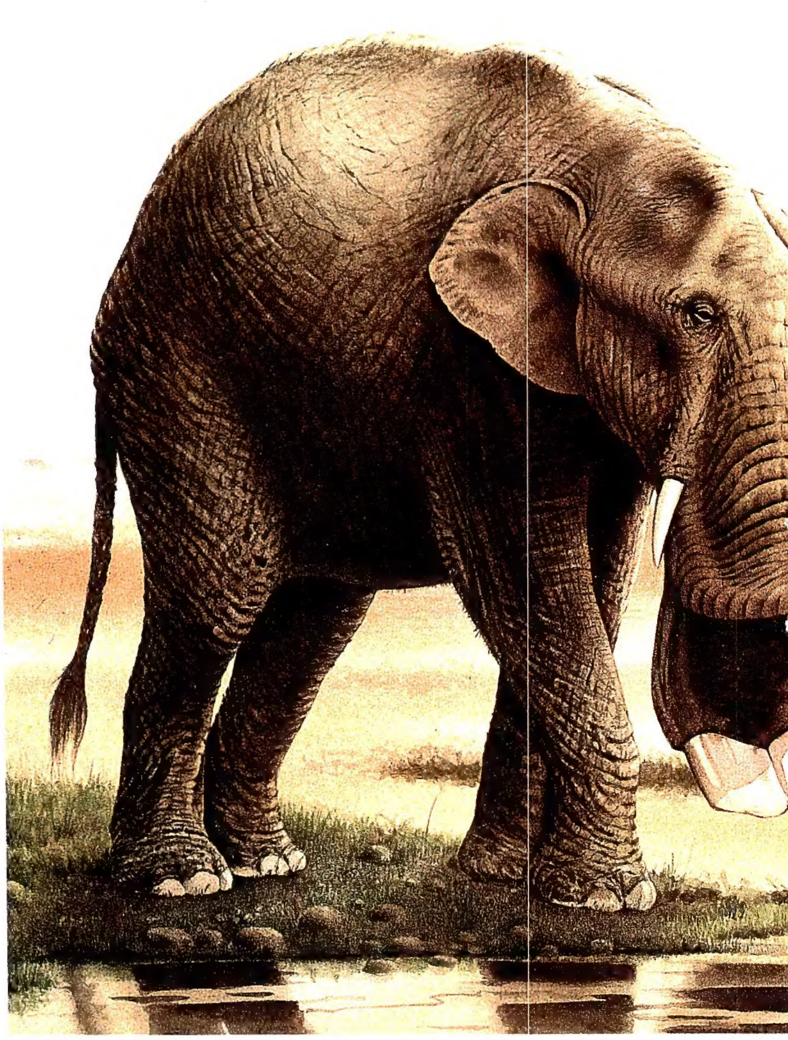
- pick food from the ground
- dig up roots and strip bark from trees
- gouge salts and minerals from rocks
- frighten and attack enemies
- battle with rival males
- impress females at breeding time

FOUR-TUSKERS

Phiomia was another early elephant. It lived in the forests that covered Egypt 35 million years ago. It was 2.5m tall and a member of the mastodont group of elephants. It had four small tusks – two short upper ones and two flat ones sticking out from its long, lower jaw. It also had a short trunk. *Gomphotherium* lived in Miocene times and was another four-tusked mastodont.

DIGGING FOR DINNER

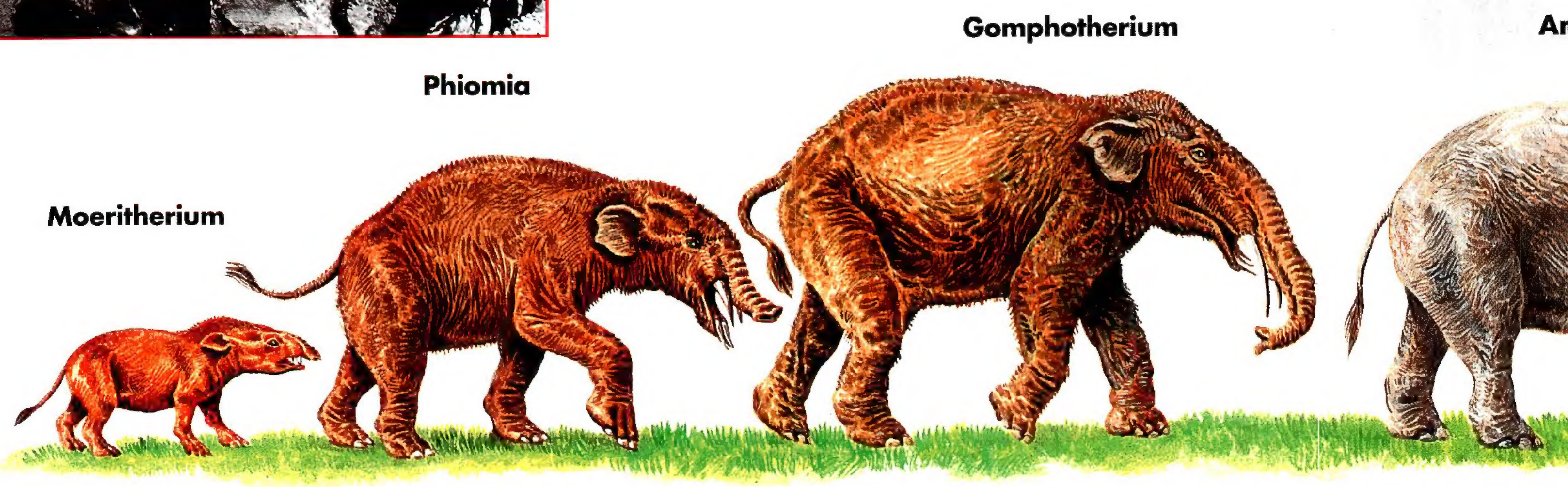
Platybelodon, another large Miocene mastodont, had a mouth that looked like a shovel! The chisel-shaped tusks in its long lower jaw formed a spade, probably for digging up water plants. Its trunk was wide and flat to hold plants on the shovel. *Platybelodon* lived in Africa, Europe and Asia.

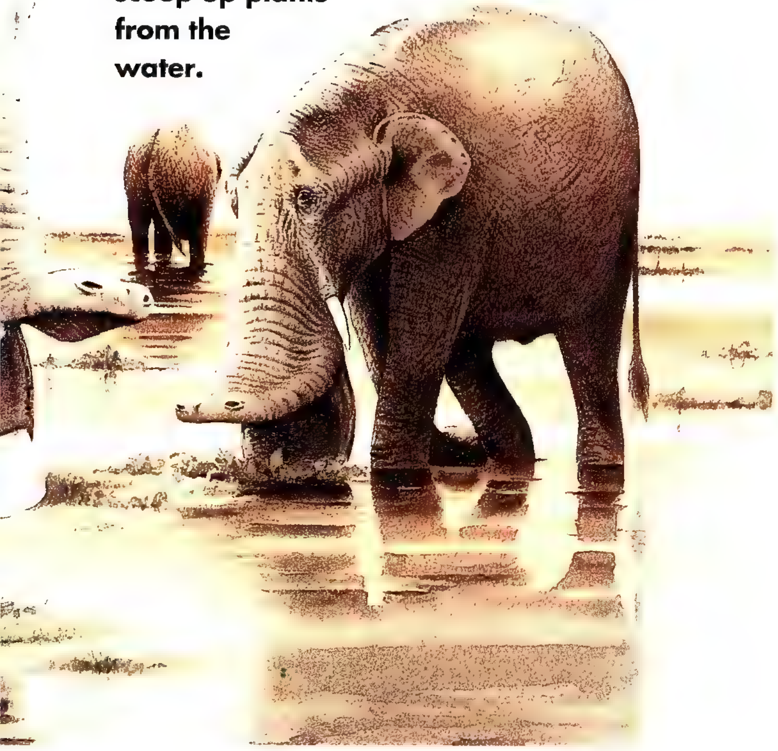


Here are the enormous skull and tusks of a mastodon. *Mastodons* became extinct about 10,000 years ago.

TOP TUSKS

Anancus looked much like today's elephant, but with incredibly long, straight upper-jaw tusks. At 4m in length, they were nearly as long as its body. *Anancus* roamed Europe and Asia six million years ago, browsing on forest leaves and rooting around in the leaf litter on the ground. It became extinct when the woodlands disappeared and grasslands developed.





***Platybelodons* probably used their shovel-like tusks to scoop up plants from the water.**

ALONGSIDE PEOPLE

Some kinds of prehistoric elephants died out by the last great Ice Age, two million years ago. But others survived and lived alongside prehistoric people. One was *Mastodon*, or Mammut, in North America. It had two large tusks in its upper jaw, a long trunk, and long hair all over its body. It died out less than 10,000 years ago, when people spread across the continent.

LAST OF THE LINE

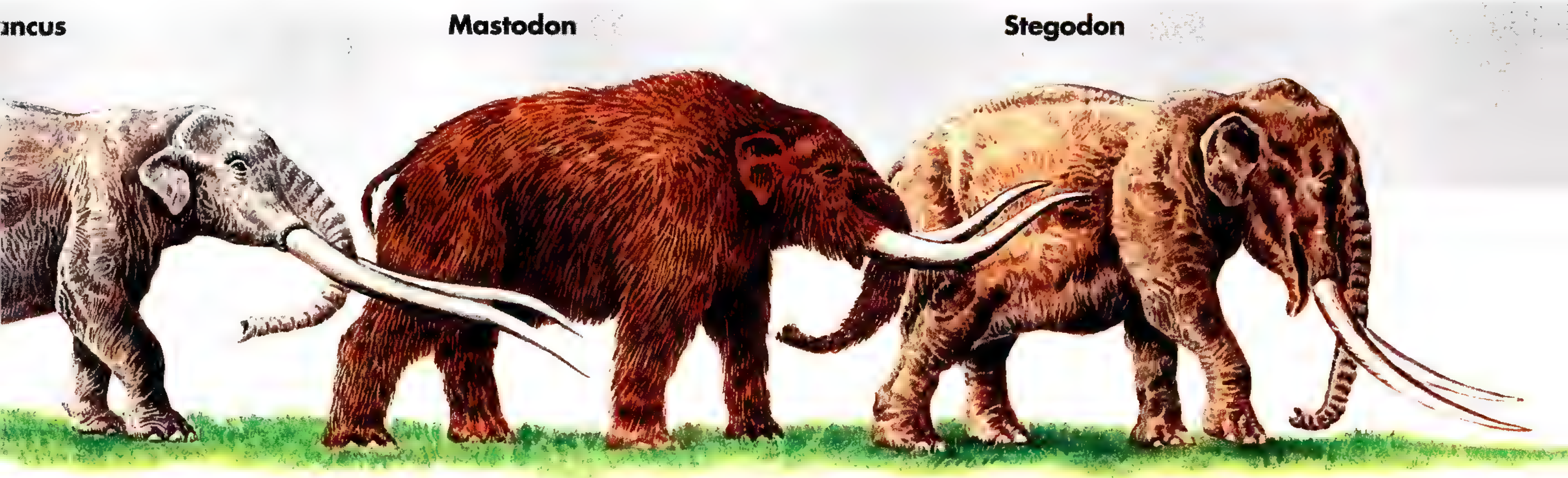
Stegodon had long upper tusks and lived in Asia and Africa about two million years ago. It was probably the ancestor of the mammoths and today's elephants. The largest elephant ever was the steppe mammoth. It was 4.5m tall and weighed 12 tonnes. The smaller, woolly mammoth roamed Europe, Asia and North America.

IT'S A FACT

USEFUL TRUNK

A trunk is a very long nose and upper lip combined to form a tube. It is strong, flexible and sensitive. Elephants use them to:

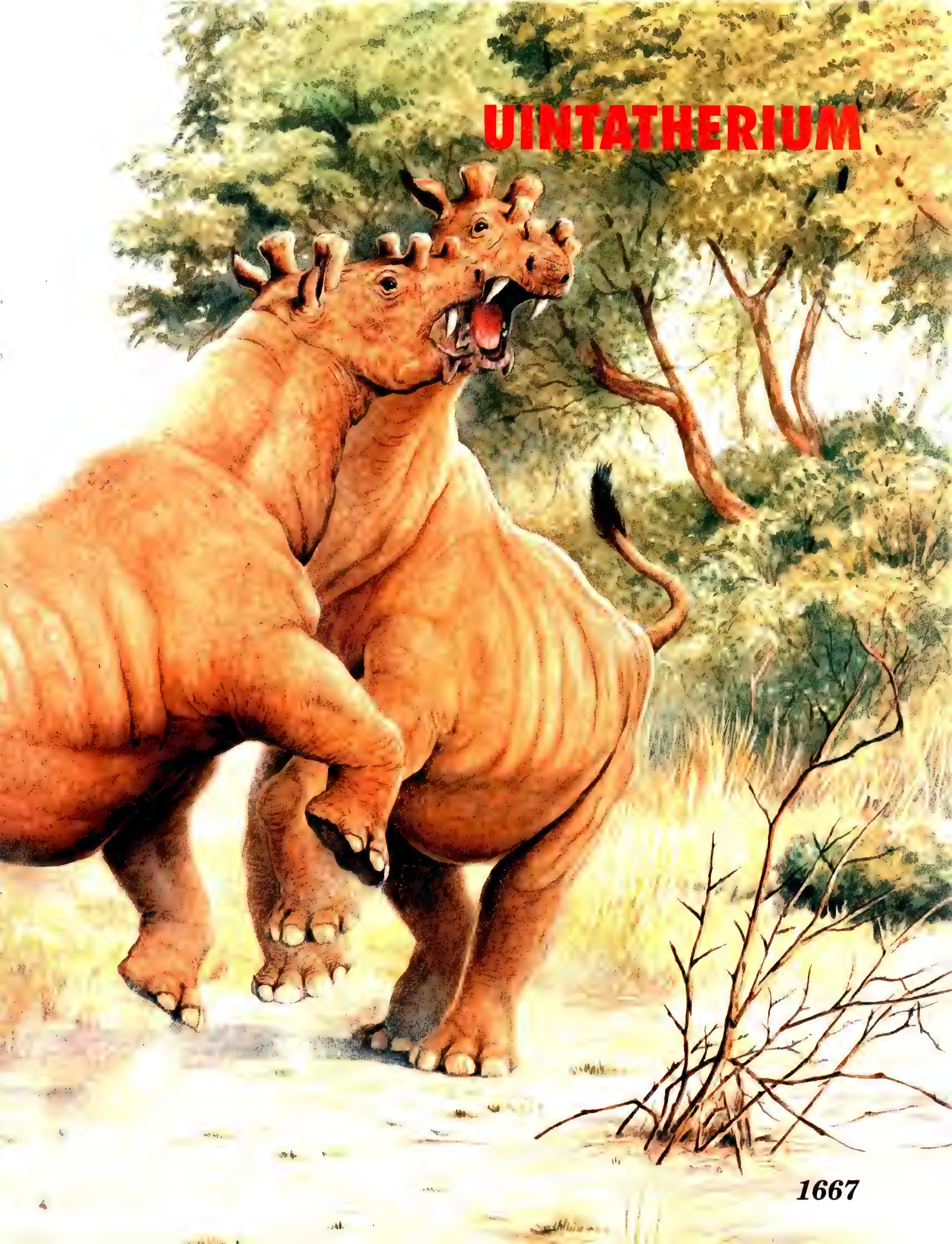
- reach for leaves high in trees
- sniff the air for scents
- breathe when under water
- suck up water to squirt into their mouths as a drink
- spray water over their backs for a refreshing shower
- trumpet to friends and enemies
- touch and stroke mates, babies and friends



GIANTS OF THE PAST

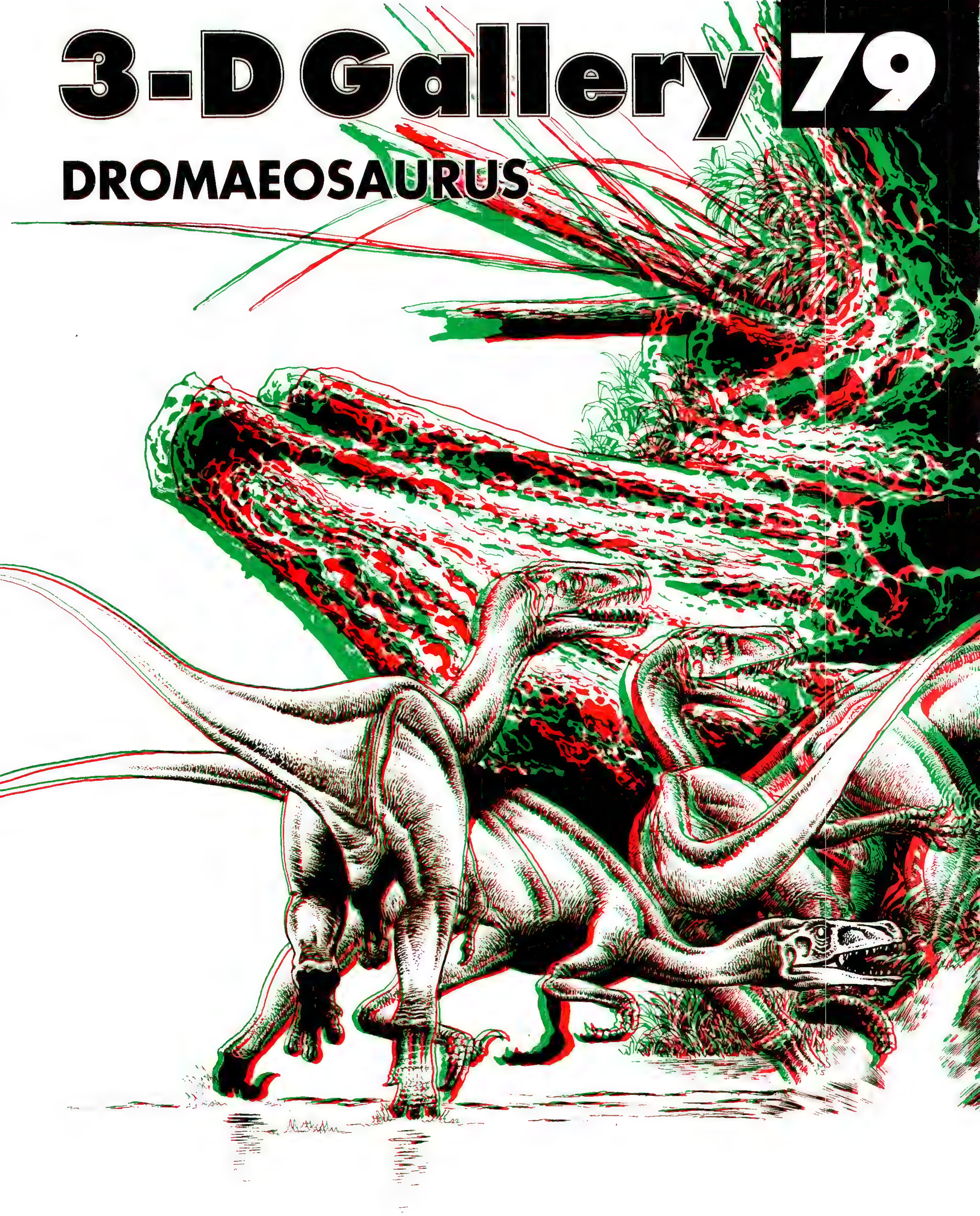
In Early Eocene North America, a noisy battle is taking place between two heavyweights. These male *Uintatherium* are fighting for the leadership of the herd. The females look on from a safe distance. With a sickening thud the huge creatures crash into one another. Each lurches to the side, trying to avoid the bony knobs on the head of its opponent. But even more to be feared are the huge canine teeth which can slash through a rival's skin like a dagger.

UINTATHERIUM



3-D Gallery 79

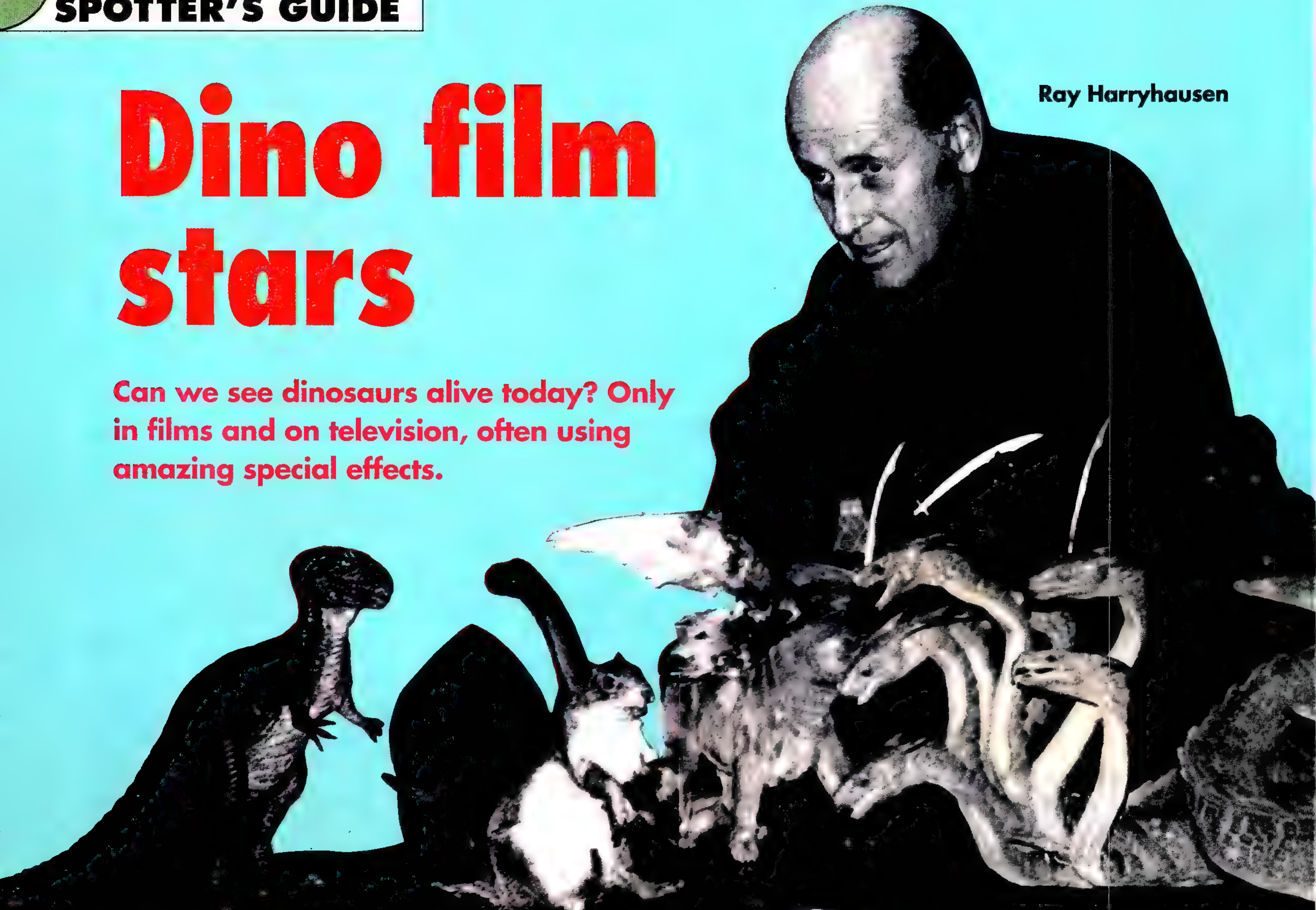
DROMAEOSAURUS



While peacefully searching for food in a dried-up streambed in Cretaceous North America, a *Leptoceratops* is surrounded by a hunting pack of hungry *Dromaeosaurus*. It stands little chance of escape from these killers with their sharp, curved teeth and sickle-shaped claws.

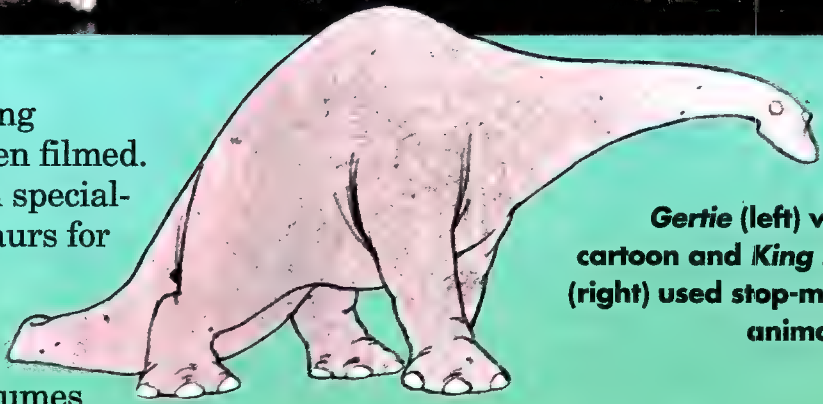
Dino film stars

Can we see dinosaurs alive today? Only in films and on television, often using amazing special effects.



Ray Harryhausen

Many stories featuring dinosaurs have been filmed. Model-makers and special-effects experts create the dinosaurs for films. Their techniques have improved over the years, from gluing fins to live lizards and dressing actors in dinosaur costumes to the astonishing electronic effects used in *Jurassic Park*. A famous palaeontologist said that some of the dinosaurs in this film were so realistic they took his breath away.



***Gertie* (left) was a cartoon and *King Kong* (right) used stop-motion animation.**

DINOSAUR MOVIE STAR

Gertie was the first dinosaur ever to appear in a film. It was a cartoon made in about 1912.

KING OF THE APES

One of the most famous films to feature dinosaurs was *King Kong*, made in 1933. All the beasts in *King Kong* were brought to life using a technique called stop-motion animation. Small, jointed models were moved slightly and photographed each time. When the photos were run together it looked as if the animals were moving.

In *Gorgo*, filmed in 1959, the gigantic dinosaur was actually an actor wearing a costume.

MODEL MASTER

Ray Harryhausen created model dinosaurs for several classic films during the 1950s and 1960s. This great animator made jointed rubber models which he set in real backgrounds and filmed using stop-motion animation. In his films people fought dinosaurs such as *Allosaurus, Triceratops* and *Ceratosaurus*. Pure fantasy, of course, because humans and dinosaurs did not live at the same time. The tiny model dinosaurs were filmed separately from the people, then merged so that they looked as if they were monsters fighting the actors! Although the films were made many years ago, the action is still very exciting and the dinosaurs some of the best ever filmed.

DISNEY DINOS

The great film-maker Walt Disney used dinosaurs in some of his films. *One of Our Dinosaurs Is Missing* was made in 1976. *Fantasia*, one of Disney's classic animated films, includes a sequence on the death of the dinosaurs.

COMPUTER DINOSAURS

Undoubtedly, the most dazzling dinosaur special effects so far were in the 1993 film *Jurassic Park*. Many techniques were used to portray dinosaurs – stop-motion animation, actors in costume, full-scale models of dinosaurs and animation using computers.

In *The Land That Time Forgot*, filmed in 1974, the dinosaurs were puppets, worked by rods hidden from the cameras.

SCREEN SCARES

In *Jurassic Park*, the results of using these techniques are stunning, from huge sauropods rising through the mists, to a herd of ostrich-like dinosaurs fleeing through a group of humans. The cunning *Velociraptors* were bigger than they were in real life, but the film-makers created the most life-like dinosaurs to date.

Prehistoric babies

Prehistoric mammals spent a lot of time and effort raising their young.

Many animals hardly care for their babies at all. They lay eggs but do not wait to see them hatch. Mammals are quite different. They continue to care for their young for days, months, even years after they are born. Millions of years ago, their prehistoric ancestors behaved in the same way.

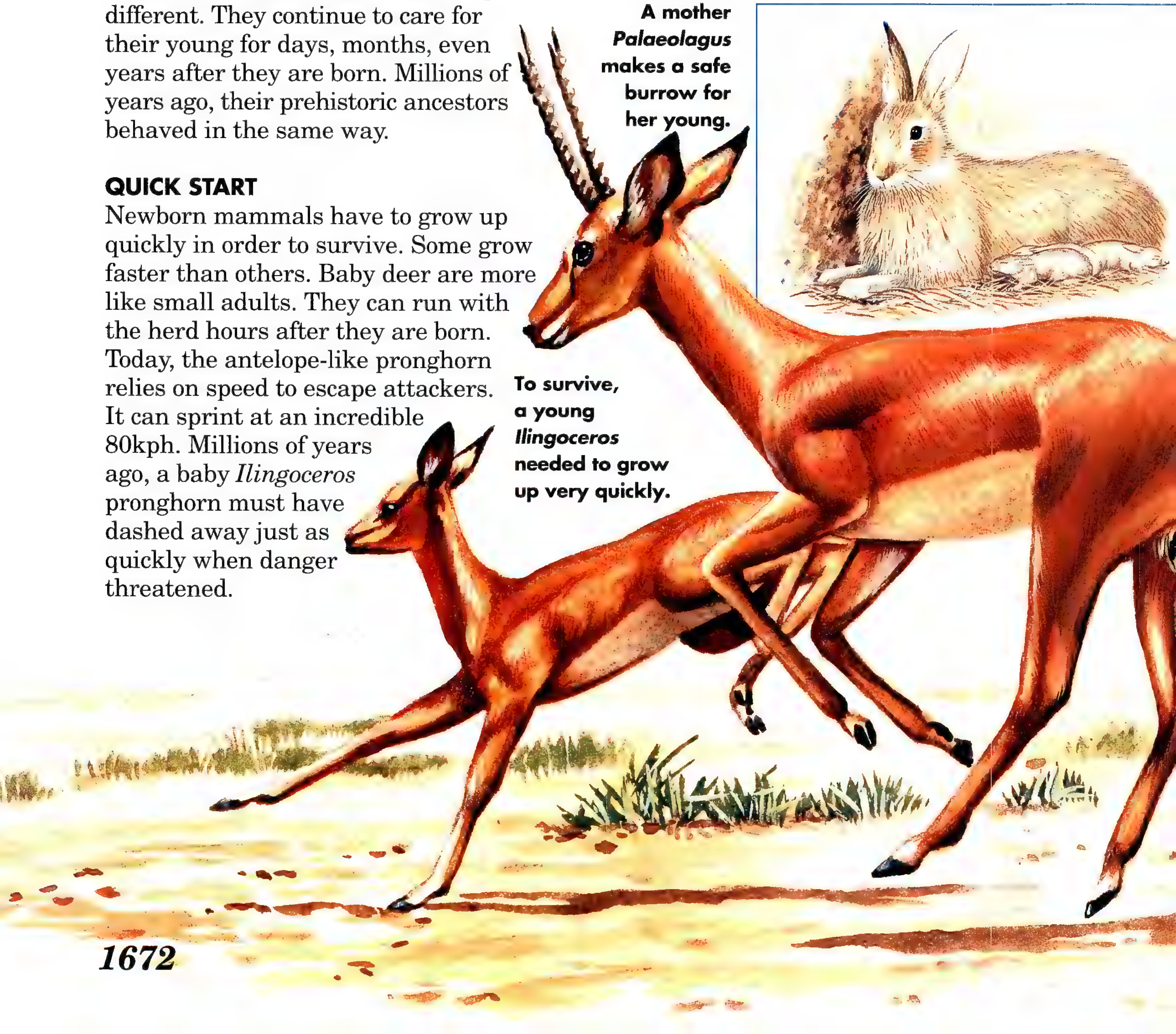
QUICK START

Newborn mammals have to grow up quickly in order to survive. Some grow faster than others. Baby deer are more like small adults. They can run with the herd hours after they are born. Today, the antelope-like pronghorn relies on speed to escape attackers. It can sprint at an incredible 80kph. Millions of years ago, a baby *Ilingoceros* pronghorn must have dashed away just as quickly when danger threatened.

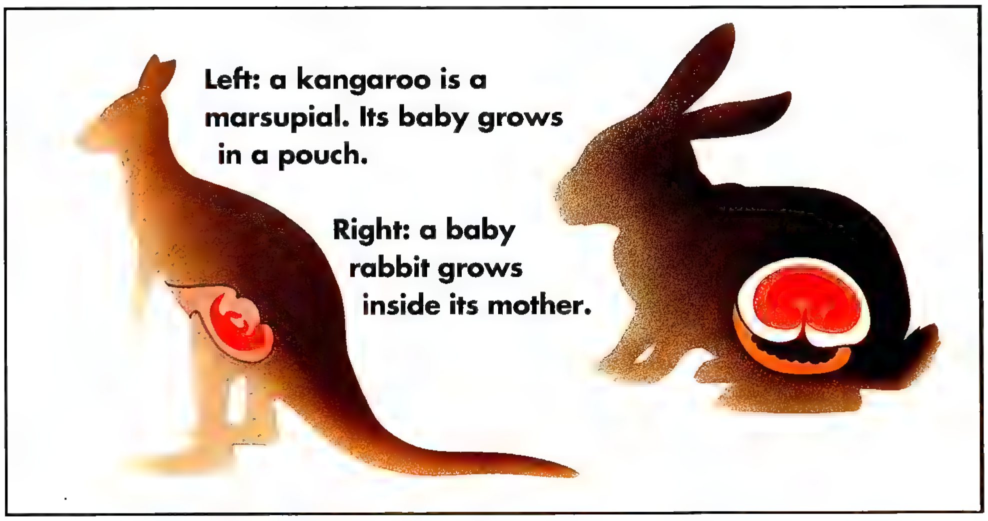
LIFE SUPPORT

To protect their babies, some mammals give birth in nests or burrows that are hidden away. More than 30 million years ago, the prehistoric rabbit *Palaeolagus* probably burrowed in the ground to make soft, secret nests for her babies.

A mother *Palaeolagus* makes a safe burrow for her young.



To survive, a young *Ilingoceros* needed to grow up very quickly.



Left: a kangaroo is a marsupial. Its baby grows in a pouch.

Right: a baby rabbit grows inside its mother.

MY PAL JOEY

The kangaroo is the best known marsupial. A baby kangaroo, known as a 'joey', stays in its mother's pouch for several months. It is born blind and it has to find its way into the pouch by smell. Inside the pouch is a nipple to which the baby attaches itself and sucks to get its mother's milk. As it gets bigger, the joey leaves the pouch now and then to explore. *Procoptodon* was a giant kangaroo that lived two million years ago. A young *Procoptodon* would have been about the same size as today's adult kangaroo.

BABY BAG

The mothers of one group of mammals, known as marsupials, carry their babies in a pouch of skin underneath their bodies. This keeps the babies safe until they are strong enough to survive on their own. Some of the earliest mammals were marsupials. The opossums of America evolved between 100 and 75 million years ago. The kangaroos of Australia appeared much later in Miocene times.

BABY LOVE

It is usually the mother who feeds and cares for her young, and forms a strong bond with them. Deer, sheep and other hoofed animals are so close to their own babies they'll turn on any others that come near. The mothers know exactly how their newborn babies smell. If a baby smells different, they reject it. Prehistoric hoofed mammals behaved in the same way.

A joey will return to its mother's pouch to suckle until it is a year old.

IT'S A FACT

BIG AND SMALL

Marsupials can be as small as a mouse or as big as a kangaroo. As baby marsupials grow, their mothers' pouches stretch so that they are always big enough to hold them.

PLAYTIME

Young mammals have to learn how to survive on their own. Meat-eaters learn how to hunt by watching their parents. And they develop their hunting skills by playing with their brothers and sisters. Tiger cubs spend several hours a day chasing each other or having mock fights. While this might look like just fun and games, experts think this probably helps to make the cubs more alert and stronger so that they become better hunters. More than 30 million years ago, cubs of the sabre-tooth tiger *Eusmilus* must have learned through play, too.

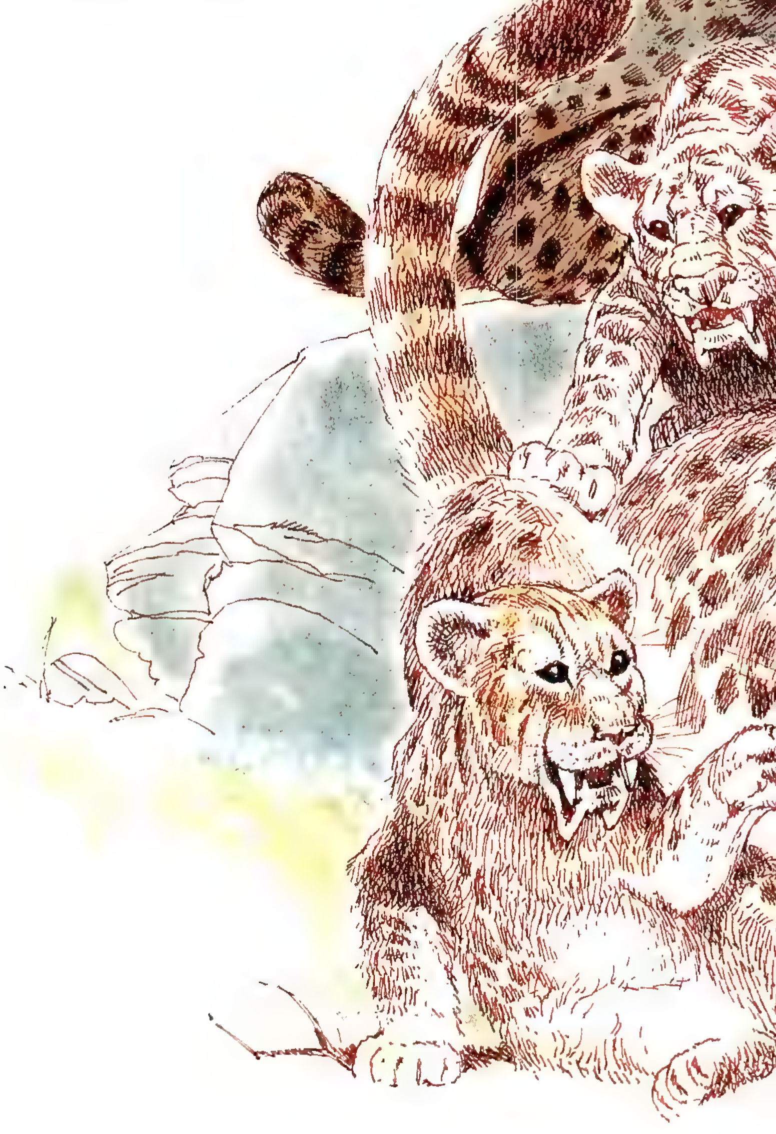
GROWING UP

A baby mammal gets all its nourishment from its mother's milk. Providing enough milk is very hard work. Some mothers have to eat nearly twice as much as normal to make enough milk for their young. So mammal mothers are keen to wean their babies (move them on to solid food) as soon as possible. Once young mammals stop drinking their mothers' milk, they start to become much more grown up and independent. Many mammals leave their mothers when they are weaned, but some stay with them. Mother monkeys, for instance, carry on caring for their young long after they are weaned. They were probably doing the same in prehistoric times.

Is it true that some baby mammals stay with their mothers a long time?

Yes. A baby orang-utan is an ape that suckles its mother's milk for about 18 months. It spends the first year of its life clinging to its mother and stays very near her for several years after that.

Many mammals, such as these baboons, stay with their family group for the whole of their lives.

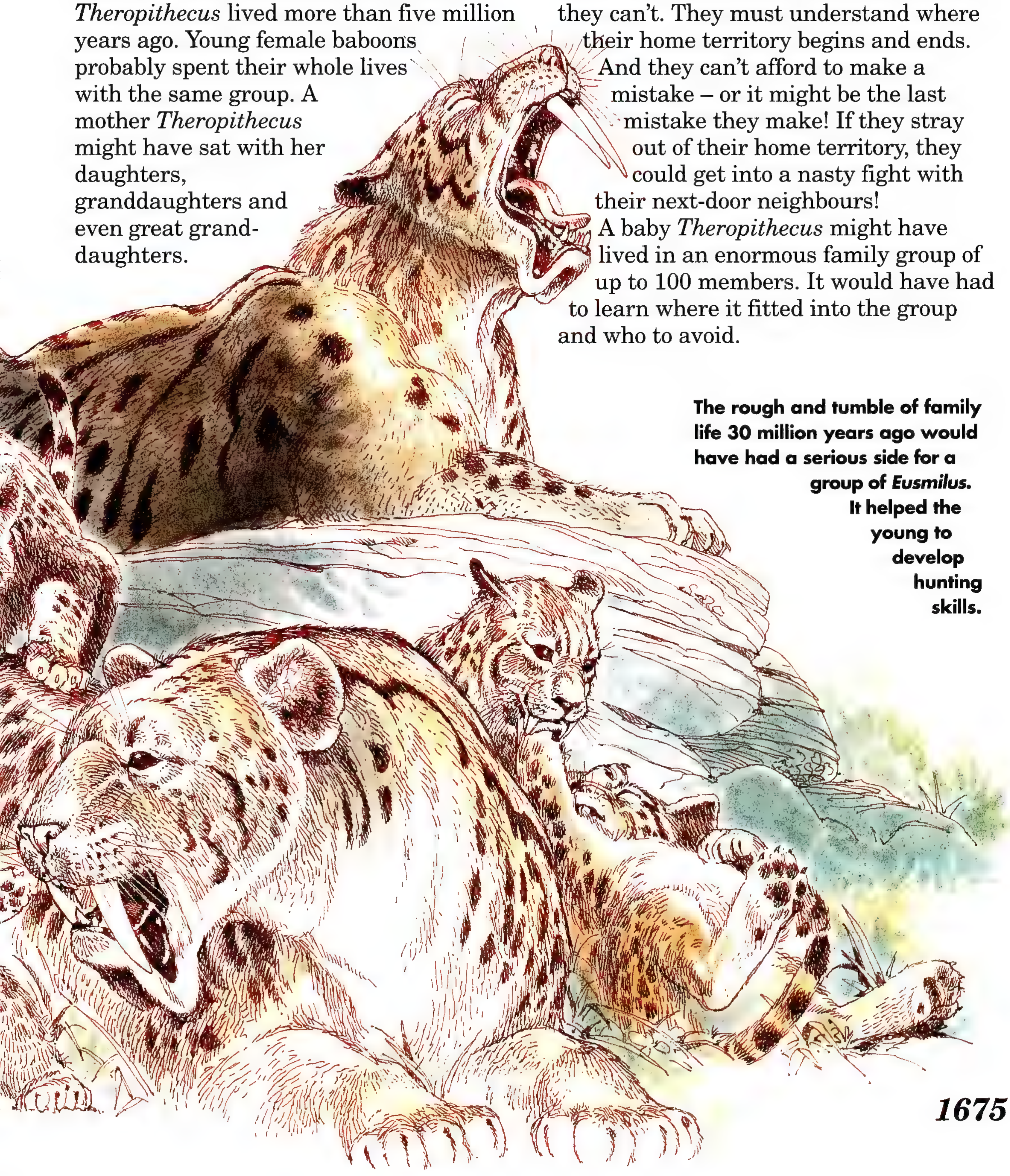


ONE BIG FAMILY

When young mammals stay with their parents, they form big family groups. Many modern apes do this and so did their ancestors. The prehistoric baboon *Theropithecus* lived more than five million years ago. Young female baboons probably spent their whole lives with the same group. A mother *Theropithecus* might have sat with her daughters, granddaughters and even great granddaughters.

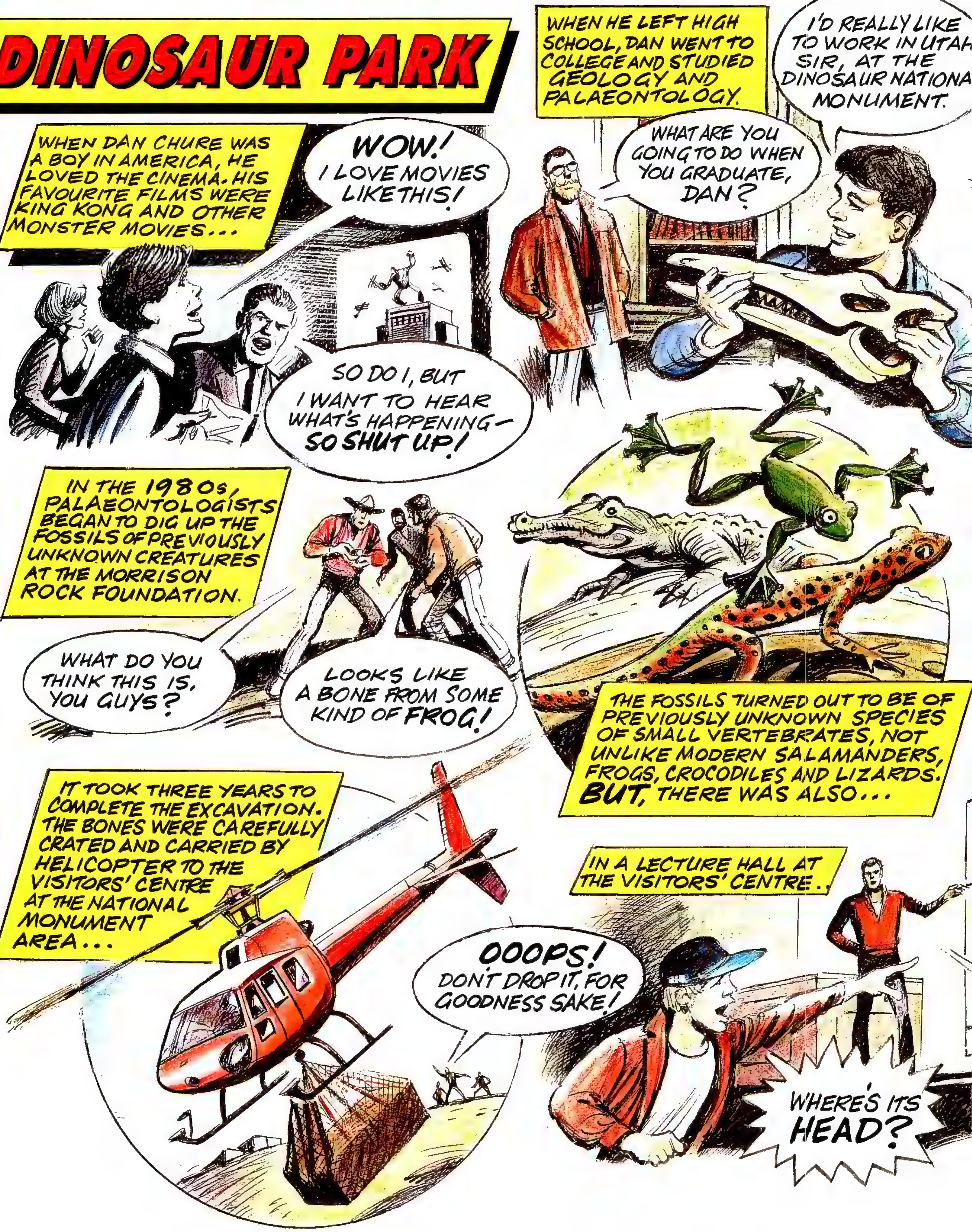
CHECK IT OUT

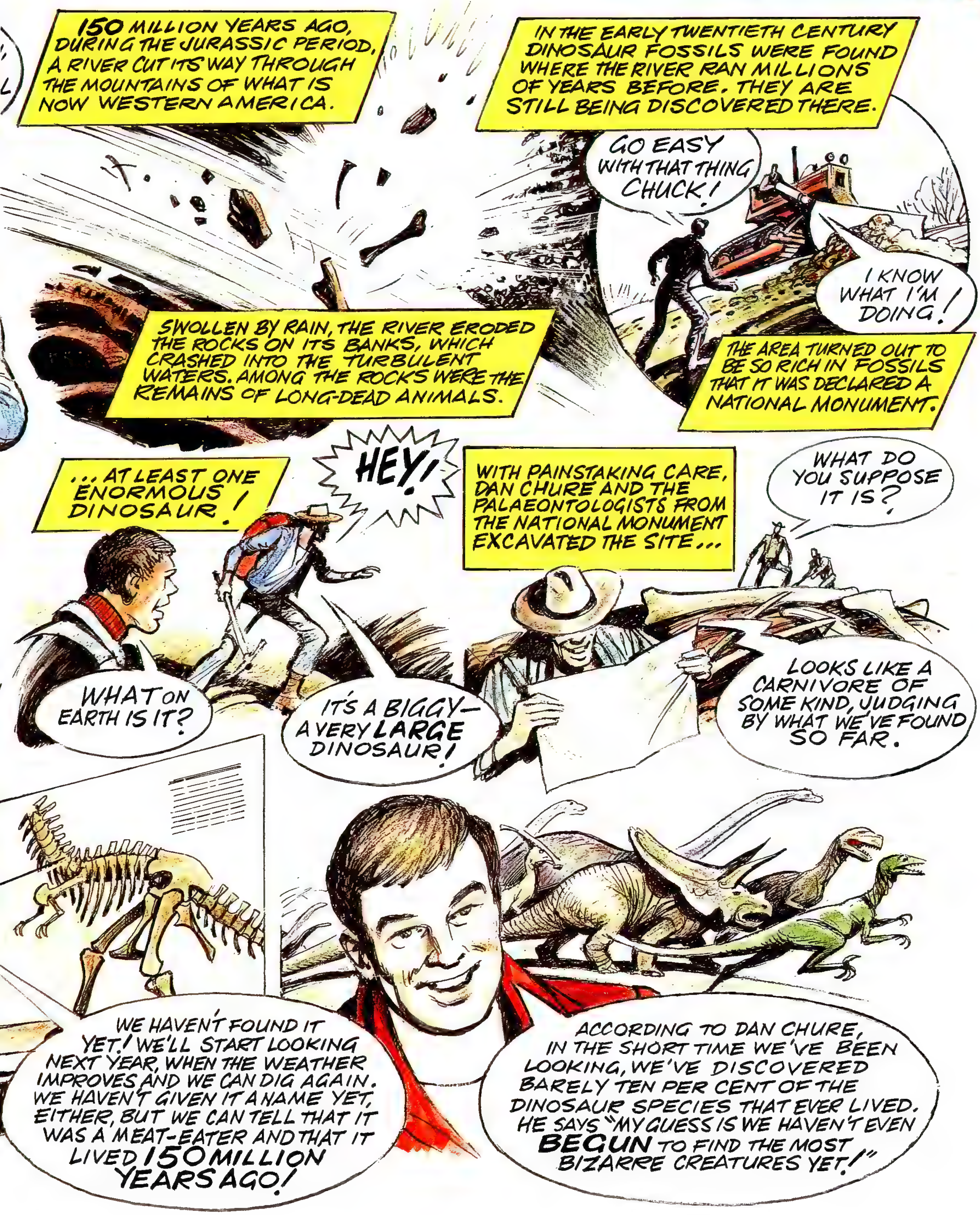
Baby mammals in the wild have a lot of learning to do. They must learn who are their friends and enemies. They must also find out what food they can eat and what they can't. They must understand where their home territory begins and ends. And they can't afford to make a mistake – or it might be the last mistake they make! If they stray out of their home territory, they could get into a nasty fight with their next-door neighbours! A baby *Theropithecus* might have lived in an enormous family group of up to 100 members. It would have had to learn where it fitted into the group and who to avoid.

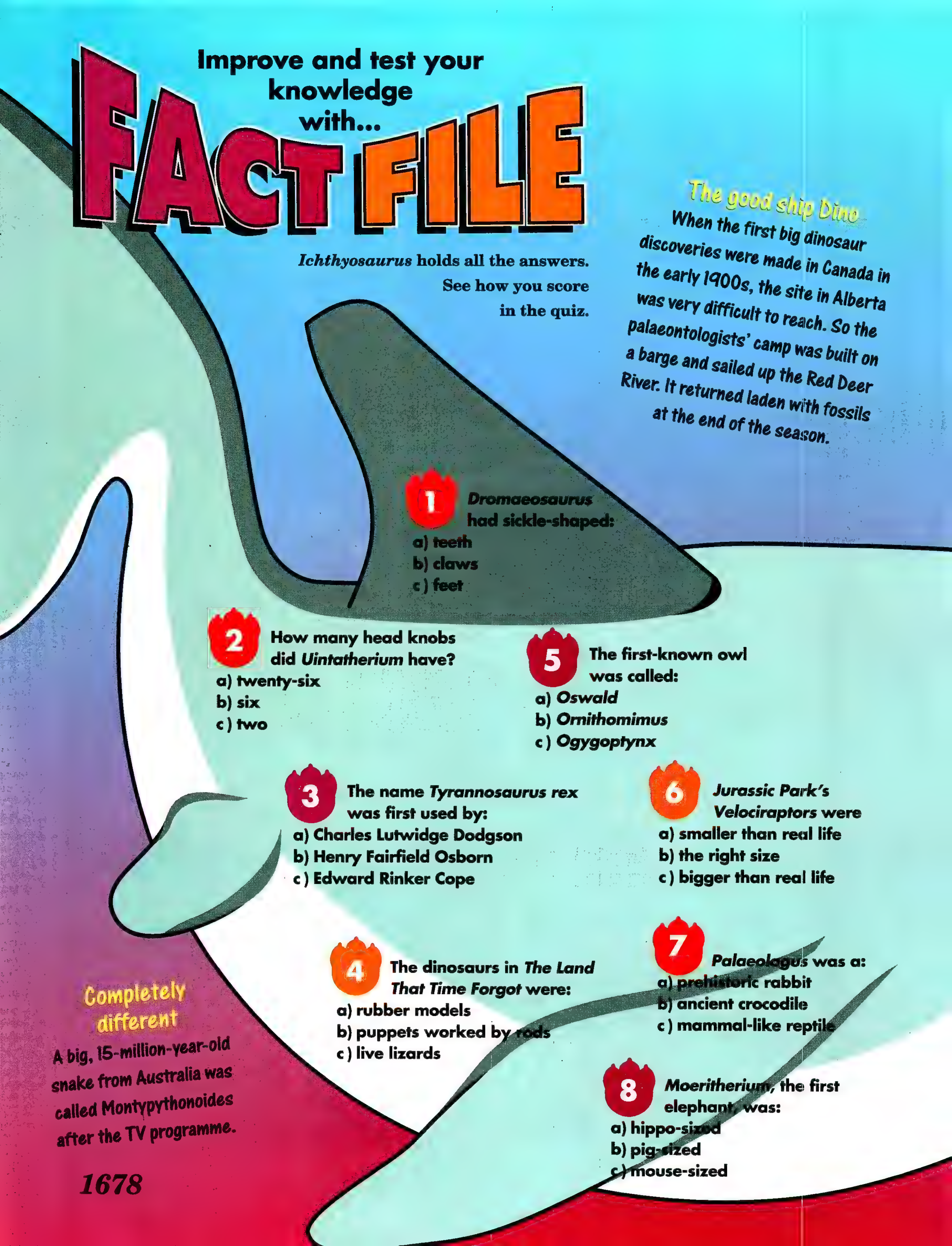


The rough and tumble of family life 30 million years ago would have had a serious side for a group of *Eusmilus*. It helped the young to develop hunting skills.

DINOSAUR PARK


WHEN DAN CHURE WAS A BOY IN AMERICA, HE LOVED THE CINEMA. HIS FAVOURITE FILMS WERE KING KONG AND OTHER MONSTER MOVIES...
WOW! I LOVE MOVIES LIKE THIS!
SO DO I, BUT I WANT TO HEAR WHAT'S HAPPENING - SO SHUT UP!
WHEN HE LEFT HIGH SCHOOL, DAN WENT TO COLLEGE AND STUDIED GEOLOGY AND PALAEONTOLOGY.
WHAT ARE YOU GOING TO DO WHEN YOU GRADUATE, DAN?
I'D REALLY LIKE TO WORK IN UTAH SIR, AT THE DINOSAUR NATIONA MONUMENT.
IN THE 1980s, PALAEONTOLOGISTS BEGAN TO DIG UP THE FOSSILS OF PREVIOUSLY UNKNOWN CREATURES AT THE MORRISON ROCK FOUNDATION.
WHAT DO YOU THINK THIS IS, YOU GUYS?
LOOKS LIKE A BONE FROM SOME KIND OF FROG!
THE FOSSILS TURNED OUT TO BE OF PREVIOUSLY UNKNOWN SPECIES OF SMALL VERTEBRATES, NOT UNLIKE MODERN SALAMANDERS, FROGS, CROCODILES AND LIZARDS. BUT, THERE WAS ALSO...
IT TOOK THREE YEARS TO COMPLETE THE EXCAVATION. THE BONES WERE CAREFULLY CRATED AND CARRIED BY HELICOPTER TO THE VISITORS' CENTRE AT THE NATIONAL MONUMENT AREA...
IN A LECTURE HALL AT THE VISITORS' CENTRE.
OOOPS! DON'T DROP IT, FOR GOODNESS SAKE!
WHERE'S ITS HEAD?


150 MILLION YEARS AGO, DURING THE JURASSIC PERIOD, A RIVER CUT ITS WAY THROUGH THE MOUNTAINS OF WHAT IS NOW WESTERN AMERICA.
IN THE EARLY TWENTIETH CENTURY DINOSAUR FOSSILS WERE FOUND WHERE THE RIVER RAN MILLIONS OF YEARS BEFORE. THEY ARE STILL BEING DISCOVERED THERE.
GO EASY WITH THAT THING CHUCK!
I KNOW WHAT I'M DOING!
SWOLLEN BY RAIN, THE RIVER ERODED THE ROCKS ON ITS BANKS, WHICH CRASHED INTO THE TURBULENT WATERS. AMONG THE ROCKS WERE THE REMAINS OF LONG-DEAD ANIMALS.
THE AREA TURNED OUT TO BE SO RICH IN FOSSILS THAT IT WAS DECLARED A NATIONAL MONUMENT.
... AT LEAST ONE ENORMOUS DINOSAUR!
HEY!
WITH PAINSTAKING CARE, DAN CHURE AND THE PALAEONTOLOGISTS FROM THE NATIONAL MONUMENT EXCAVATED THE SITE...
WHAT DO YOU SUPPOSE IT IS?
WHAT ON EARTH IS IT?
IT'S A BIGGY— A VERY LARGE DINOSAUR!
LOOKS LIKE A CARNIVORE OF SOME KIND, JUDGING BY WHAT WE'VE FOUND SO FAR.
WE HAVEN'T FOUND IT YET! WE'LL START LOOKING NEXT YEAR, WHEN THE WEATHER IMPROVES AND WE CAN DIG AGAIN. WE HAVEN'T GIVEN IT A NAME YET, EITHER, BUT WE CAN TELL THAT IT WAS A MEAT-EATER AND THAT IT LIVED 150 MILLION YEARS AGO!
ACCORDING TO DAN CHURE, IN THE SHORT TIME WE'VE BEEN LOOKING, WE'VE DISCOVERED BARELY TEN PER CENT OF THE DINOSAUR SPECIES THAT EVER LIVED. HE SAYS "MY GUESS IS WE HAVEN'T EVEN BEGUN TO FIND THE MOST BIZARRE CREATURES YET!"



Improve and test your knowledge with... FACT FILE

Ichthyosaurus holds all the answers. See how you score in the quiz.

The good ship Dino

When the first big dinosaur discoveries were made in Canada in the early 1900s, the site in Alberta was very difficult to reach. So the palaeontologists' camp was built on a barge and sailed up the Red Deer River. It returned laden with fossils at the end of the season.

1 *Dromaeosaurus* had sickle-shaped:
a) teeth
b) claws
c) feet

2 How many head knobs did *Uintatherium* have?
a) twenty-six
b) six
c) two

3 The name *Tyrannosaurus rex* was first used by:
a) Charles Lutwidge Dodgson
b) Henry Fairfield Osborn
c) Edward Rinker Cope

4 The dinosaurs in *The Land That Time Forgot* were:
a) rubber models
b) puppets worked by rods
c) live lizards

5 The first-known owl was called:
a) *Oswald*
b) *Ornithomimus*
c) *Ogygoptynx*

6 *Jurassic Park's Velociraptors* were
a) smaller than real life
b) the right size
c) bigger than real life

7 *Palaeolagus* was a:
a) prehistoric rabbit
b) ancient crocodile
c) mammal-like reptile

8 *Moeritherium*, the first elephant, was:
a) hippo-sized
b) pig-sized
c) mouse-sized

Completely different

A big, 15-million-year-old snake from Australia was called Montypythonoides after the TV programme.

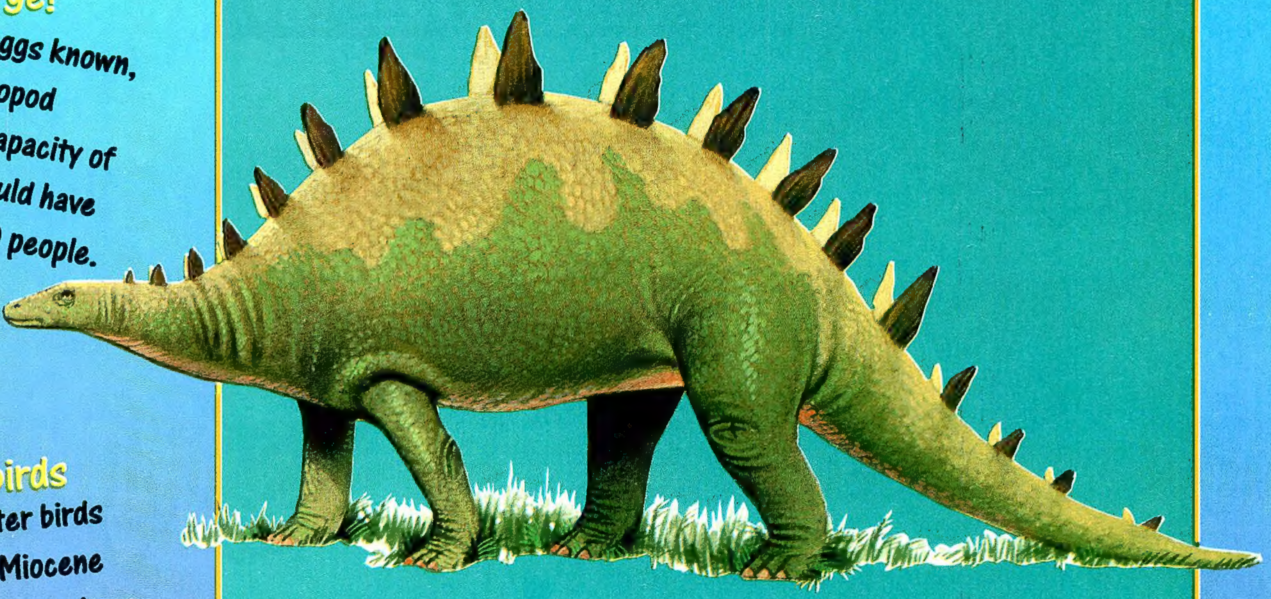
Eggs-tra large!

The biggest dinosaur eggs known, those of the sauropod Hypselosaurus, had a capacity of 3.3 litres. Each egg would have made an omelette for 40 people.

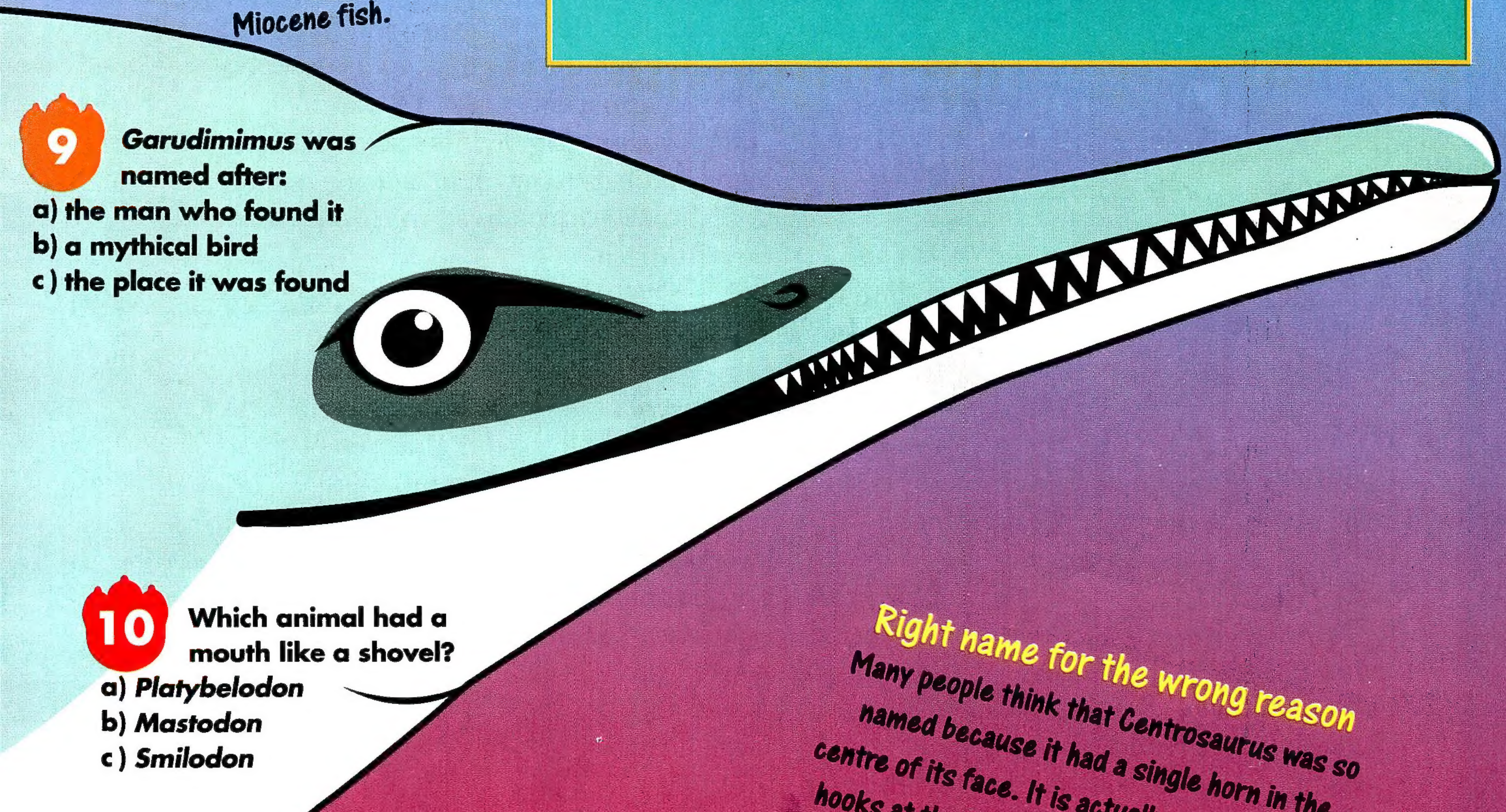
Fishes eat birds

We know that water birds were common in Miocene times because scientists keep finding feathers in coprolites (fossil dung) produced by Miocene fish.

Spines or plates?



Dacentrurus, a stegosaur found in Britain, France and Portugal, had spiky spines down its back and tail rather than the plates displayed by most of its relatives. Over 4m long, Dacentrurus was a Jurassic plant-eater.



9 ***Garudimimus* was named after:**
a) the man who found it
b) a mythical bird
c) the place it was found

10 **Which animal had a mouth like a shovel?**
a) *Platybelodon*
b) *Mastodon*
c) *Smilodon*

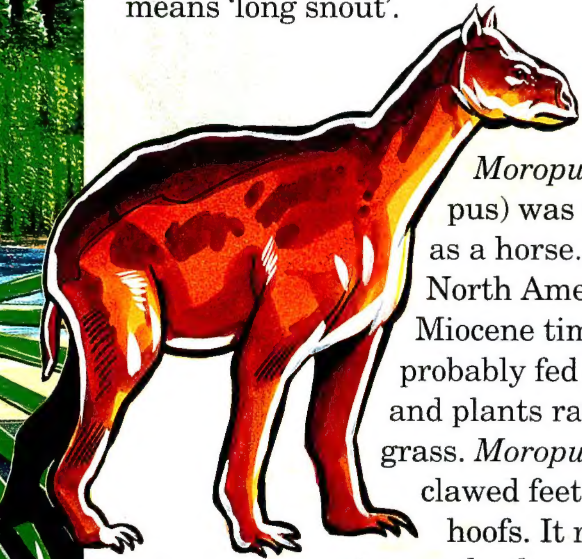
Right name for the wrong reason

Many people think that Centrosaurus was so named because it had a single horn in the centre of its face. It is actually named after the hooks at the top of the frill that point towards the centre of the skull.

Answers to the questions on inside back cover

METRIORHYNCHUS 150 MYA

Metriorhynchus (met-ree-or-rin-kuss) was a crocodile which lived in seas all over the world during the Jurassic Period. Half the length of a crocodile today, *Metriorhynchus* swam with the help of two pairs of flippers and a wide tail fin. Its long, narrow jaws snapped up fish and tore them apart with rows of sharp, pointed teeth. *Metriorhynchus* means 'long snout'.



MOROPUS

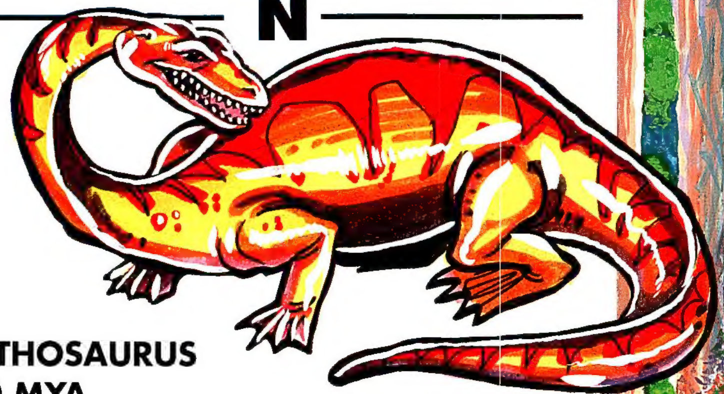
26 MYA

Moropus (mor-oh-pus) was about as big as a horse. It lived in North America in Miocene times and probably fed on leaves and plants rather than on grass. *Moropus* had large clawed feet without any hoofs. It ran quite slowly on four stocky legs and may have dug up roots with its claws. *Moropus* means 'awkward feet'.

MOSCHOPS 260 MYA

Moschops (mos-kops) was a large, lumbering mammal-like reptile that lived in the Late Permian Period in South Africa and Russia. With a thick skull and powerful shoulders, *Moschops* probably took part in head-butting contests with other males. *Moschops* was a heavy animal, as long as two small cars. It filled its barrel-shaped body with a diet of tough plants. Its name means 'calf eye'.

N



NOTHOSAURUS

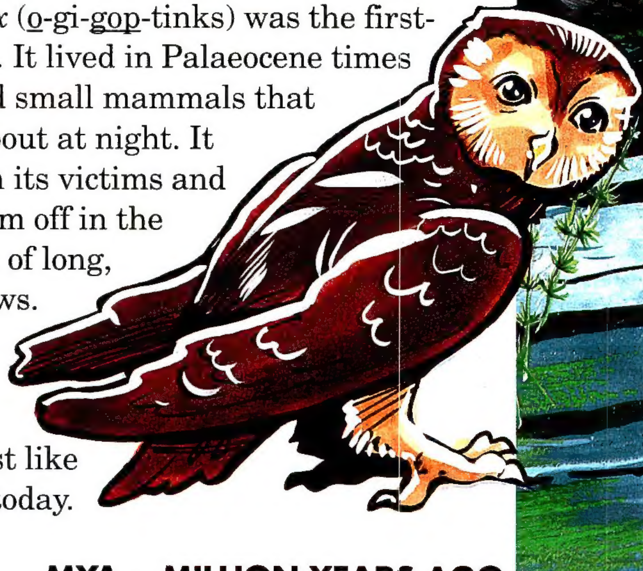
200 MYA

Long, low *Nothosaurus* (no-thoh-saw-rus) was a fish-eating reptile which swam in the Triassic seas. Its long neck and flat skull helped it to hunt fish but it was probably quite a clumsy swimmer. In water *Nothosaurus* wriggled its body and used its arms and legs to swim in a 'doggy paddle' style. *Nothosaurus* lived in Europe and South Africa.

O

OGYGOPTYNX 55 MYA

Ogygoptynx (o-gi-gop-tinks) was the first-known owl. It lived in Palaeocene times and hunted small mammals that scurried about at night. It swooped on its victims and carried them off in the secure grip of long, hooked claws. It had a large head and soft plumes, just like owls have today.

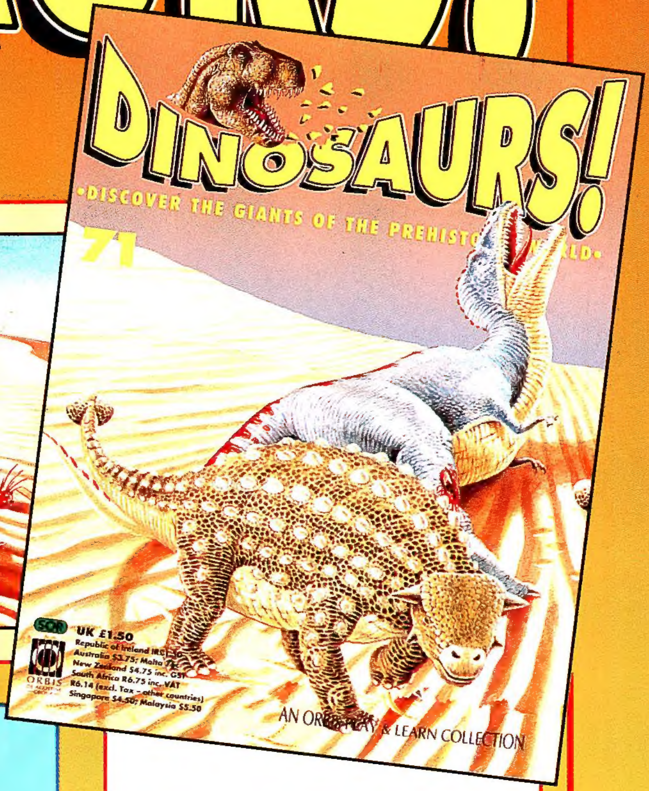


MYA = MILLION YEARS AGO

COMING IN PART 71 OF

DINOSAURS!

In TIME DETECTIVE find out still more about *Tyrannosaurus rex*. Read about life after the dinosaurs in PREHISTORIC WORLD.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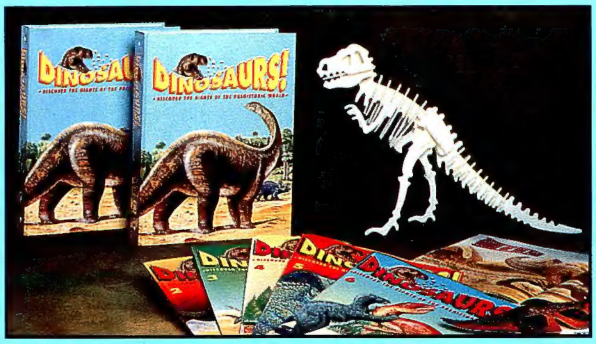

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ANSWERS TO FACT FILE QUESTIONS: 1.b 2.b 3.b 4.b 5.c 6.c 7.a 8.b 9.b 10.a

Dr David Norman of Cambridge University answers your dinosaur questions

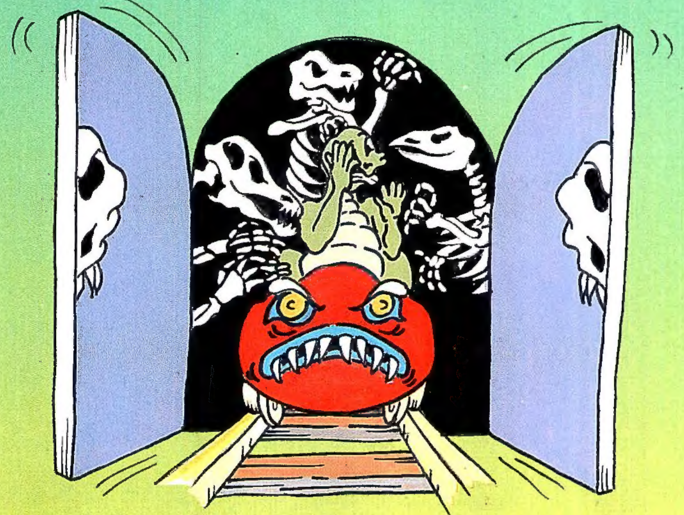
ASK THE EXPERT

Who invented the name Tyrannosaurus rex?

The name was first used in 1905 by an American scientist called Dr Henry Fairfield Osborn. He was looking for a name for the partial skeleton of a large carnivorous dinosaur that he had found in northern Montana, USA. *Tyrannosaurus rex*, which means 'king of the tyrant reptiles', is an appropriate name for such a massive predator.

What did dinosaurs smell like?

We have no idea. Many dinosaurs may not have smelled at all in their natural habitat. Reptile houses in zoos tend to smell rather nasty. But this is an unnatural environment, and may be caused by poor ventilation or rotting food.



How many bones are there in a dinosaur skeleton?

There are about 300 bones in most dinosaur skeletons. Some, however, have extra bones in the skin, which make up their defensive armour-plating, or spines or plates. The large armoured ankylosaurs probably had the most bones of all.

Could dinosaurs crack nuts?

Some dinosaurs, such as the oviraptorosaurs, had short, powerful toothless beaks which were very like the beaks of parrots today. Of all the known dinosaurs, the oviraptorosaurs definitely had the greatest nut-cracking potential!

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